REVISION HISTORY BG3R CHASSIS

MODEL

KV-AR29K90

PART NO.: 9-872-348-01

NO.	SUFFIX	DATE	SUPPL. / CORR	DESCRIPTION
1	-01	2002/11	--	1st. Issue

Self Diagnosis
Supported model

SERVICE MANUAL

BG3R CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-AR29K90	RM-996	Korea	SCC-U58G-A				

TRINITRON® COLOR TV

SONY®

SPECIFICATIONS

				Note
Power requirements	110-220 V AC, 60Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	M			
Color system	NTSC3.58			
Stereo/Bilingual System	Korean Stereo			
Channel coverage				
M	VHF: 2 to 13 / UHF: 14 to 69 CATV: 1 to 125			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal				
Video	Input: 4*	Output: 1	* Three input lines available	Phono jacks; 1 Vp-p, 75 ohms
(Audio)	Input: 4*	Output: 1	* Three input lines available	Phono jacks; 500 mVrms
(S Video)	Input : 2			Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p, 75 ohms
Component Video (DVD) IN	Input : 1			Phono jacks: Y: 1 Vp-p, 75 ohms sync negative C_B: 0.7 Vp-p, 75 ohms C_R: 0.7 Vp-p, 75 ohms Audio: 500mVrms
(Headphone)	Output: 1			Stereo minijack
Picture tube	29 in			
Tube size (cm)	72			measured diagonally
Screen size (cm)	68			measured diagonally
Dimension (w/h/d,mm)	765 × 578 × 502			
Mass (kg)	49			

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

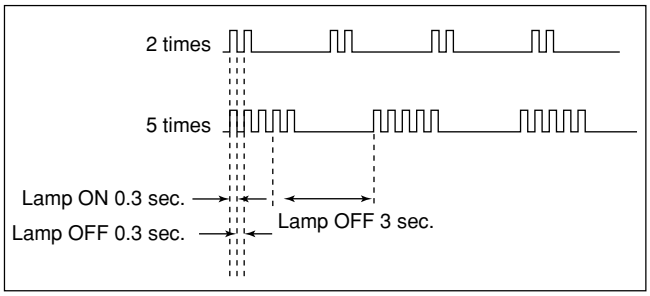
When an errors occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F4601 (F)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) or overvoltage (OVP) • Vertical deflection stopped • Horizontal deflection overdrive	2 times	002:000 or 002:001~255 003:001~255 004:001~255 at the same time	• H.OUT Q511 is shorted. (A board) • Q701, Q702, Q703 is shorted (C6 board) • -13V is not supplied. (A board) • IC 503 faulty (A board)	• Power does not come on. • Load on power line is shorted. • Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~225	• G2 is improperly adjusted. (Note 2) • CRT problem. • R(Q703), G(Q702) or B(Q701) out is faulty (C6 board) • IC301 is faulty. (A board) • No connection A board to C6 board.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Micro reset	—	101:00 or 101:001~225	• Discharge CRT (C6 Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

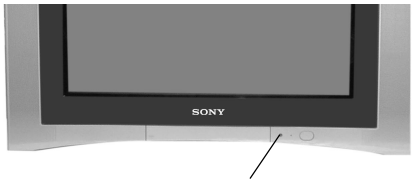
Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.
* R(Q703), G(Q702) or B(Q701) out is faulty (C6 board).

2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT



Diagnostic Item	Flash Count*
+B overcurrent/overvoltage Vertical deflection stopped	2 times
White balance failure	5 times

* One flash count is not used for self-diagnostic.



STANDBY/SLEEP lamp

3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

4. SELF-DIAGNOSTIC SCREEN DIPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

[To Bring Up Screen Test]

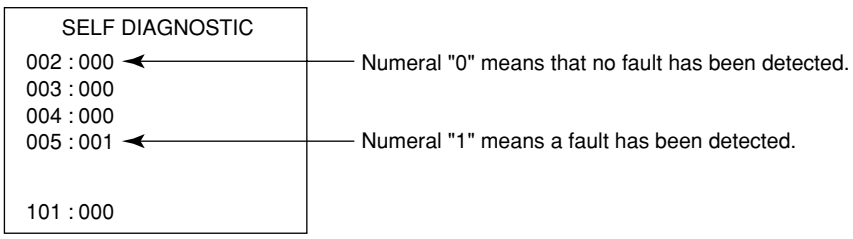
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume - ➡ Power ON

⇧

Note that this differs from entering the service mode (mode volume +).

Self-Diagnosis screen display


SELF DIAGNOSTIC
002 : 000
003 : 000
004 : 000
005 : 001
101 : 000
Numeral "0" means that no fault has been detected.
Numeral "1" means a fault has been detected.

5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]

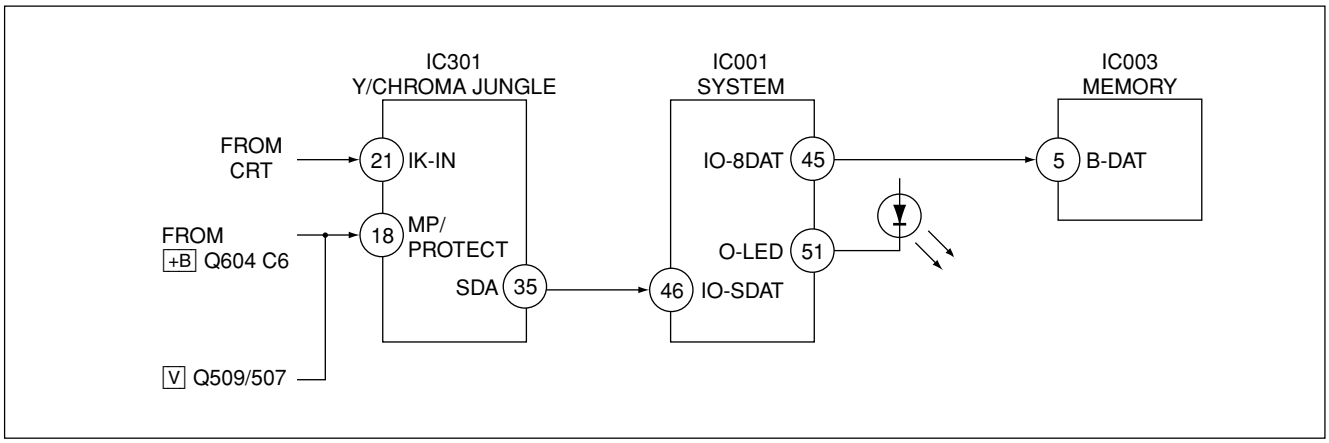
To clear the result display to “0”, press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel [8] ➡ 0

[Quitting Self-diagnostic screen]

To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

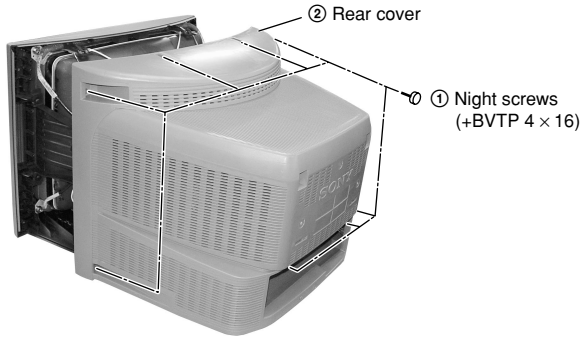
6. SELF-DIANOSTIC CIRCUIT



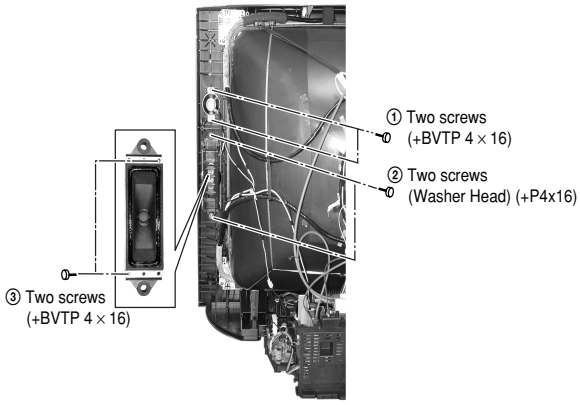
B overcurrent (OCP)	Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.
Vertical deflection stopped	Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply.
Vertical deflection overcurrent	Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001.
White balance failure	If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture. * (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

SECTION 1
DISASSEMBLY

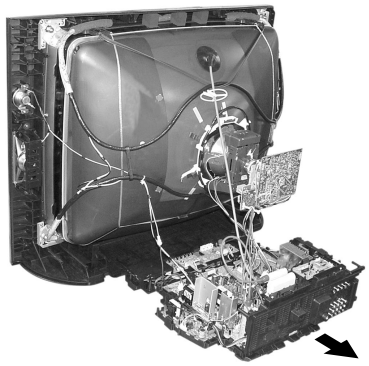
1-1. REAR COVER REMOVAL



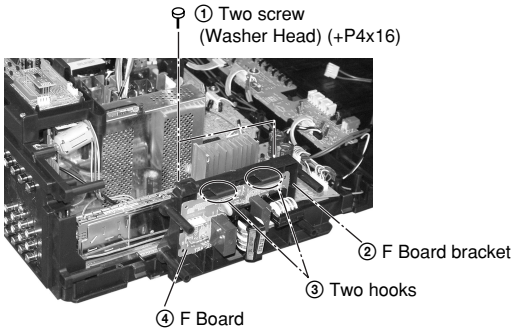
1-2. SPEAKER REMOVAL



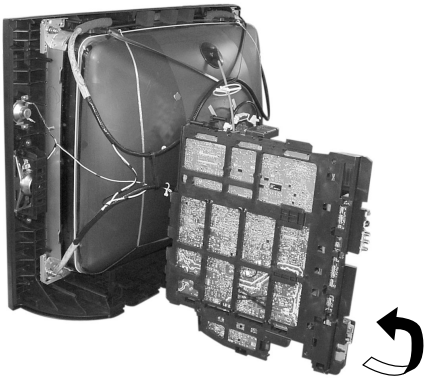
1-3. CHASSIS ASSY REMOVAL



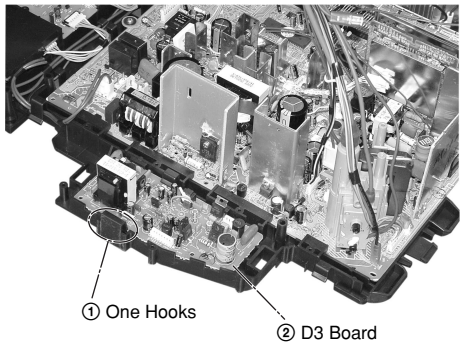
1-4. F BOARD REMOVAL



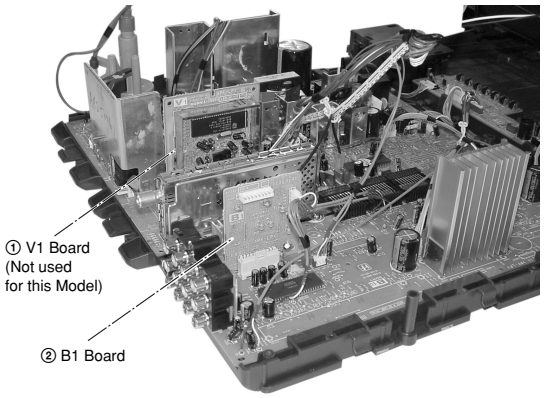
1-5. SERVICE POSITION



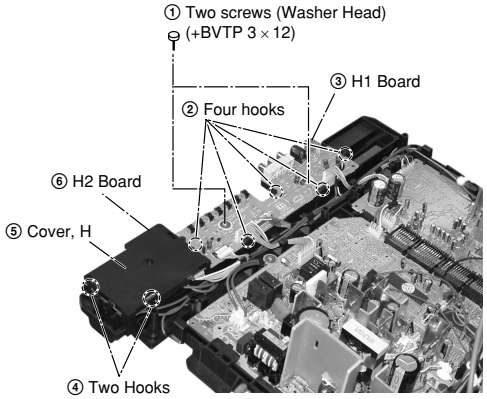
1-6. D3 BOARD REMOVAL



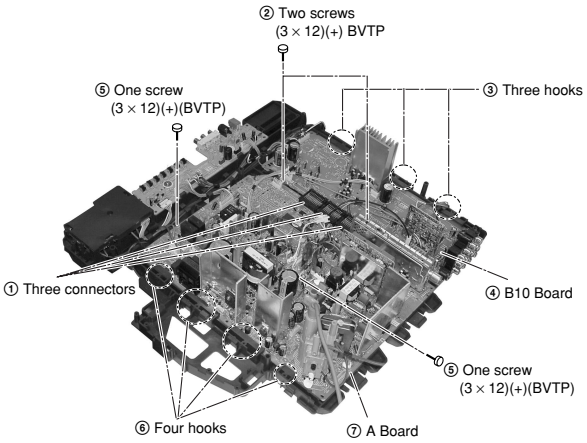
1-7. B1 BOARD REMOVAL



1-8. H1 AND H2 BOARDS REMOVAL



1-9. A AND B10 BOARDS REMOVAL

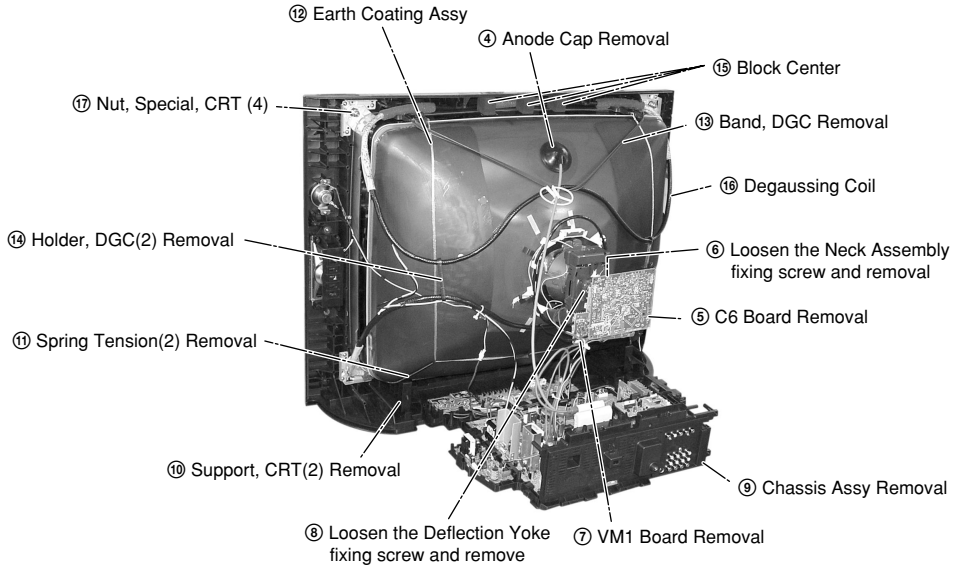


1-10. PICTURE TUBE REMOVAL

Note:

- Please make sure the TV set is not in standing position before removing necessary CRT support located on bottom right and left.

1) Place the TV set with the CRT face down on a cushion jig.
2) Remove the rear cover.
3) Unplug all interconnecting leads from the Deflection yoke, Neck assy, Degaussing Coil and CRT grounding strap.

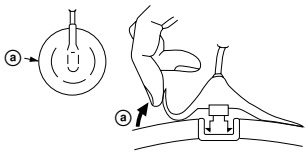

⑫ Earth Coating Assy
④ Anode Cap Removal
⑮ Block Center
⑰ Nut, Special, CRT (4)
⑬ Band, DGC Removal
⑯ Degaussing Coil
⑭ Holder, DGC(2) Removal
⑥ Loosen the Neck Assembly fixing screw and removal
⑤ C6 Board Removal
⑪ Spring Tension(2) Removal
⑩ Support, CRT(2) Removal
⑨ Chassis Assy Removal
⑧ Loosen the Deflection Yoke fixing screw and remove
⑦ VM1 Board Removal

• REMOVAL OF ANODE-CAP

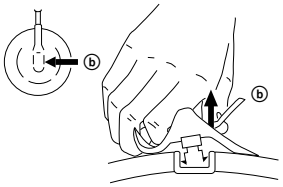
Note:

- After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

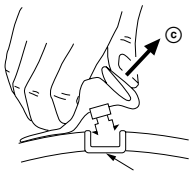
- **REMOVING PROCEDURES**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

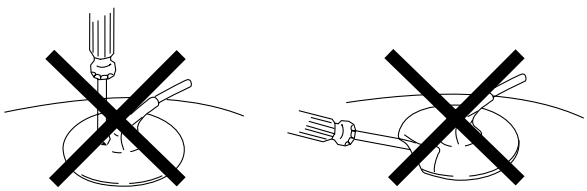


anode button

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.

- **HOW TO HANDLE AN ANODE-CAP**

① Do not damage the surface of anode-caps with sharp shaped objects.
② Do not press the rubber too hard so as not to damage the inside of anode-cap.
A metal fitting called the shatter-hook terminal is built into the rubber.
③ Do not turn the foot of rubber over too hard.
The shatter-hook terminal will stick out or damage the rubber.



SECTION 2
ADVANCE OPERATION

2-1. "RESET" FUNCTION

1. Purpose

If a customer faces some setting problem that cannot be solved, using the "RESET" function some items will be reset to its original setting (shipment condition)

2. How to Operate

The way to access to the "RESET" Function:-

a) By pressing "MENU" button or "SELECT" button (for non-menu models) on the Front Key Input and hold it down for 5 seconds.

3. Subsequent of Operation

Sequential to the resetting operation (either methods being used in No. 2), TV set would shut down once and automatically turn on again. The power-off duration is expected to be about 500msec. An OSD message, "RESET" tentatively will be displayed for 10 sec after IK status gets stable.
As a result, some items will be reset to an initial condition (shipment condition) wheareas some other remains at the last selection by user.

Items that remains at the last selection by user

Channel No., Favourite CH Setup, PIC rotation, OSD Language, Fine tuning, TV System, Skip

Reset Items

Video input	RF	Antenna sensitivity	HIGH*
Volume	30	Stereo mode	STEREO
Picture mode	DYNAMIC	Bilingual mode	MAIN*
PICSI		High-deviation mode	AUTO
Sound mode	DYNAMIC	Child lock	OFF*
Surround mode	OFF	Wide mode	OFF
Favourite CH mode	AUTO	Game mode	OFF
Multi Picture (PIP)	OFF	Sleep timer	OFF
PIP position	Bottom Right	Wake-up timer	OFF
OSD recall	OFF	Sound muting	OFF
Antenna sensitivity	OFF		

*= only when in RF mode

SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE control ..... normal

BRIGHTNESS control ..... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Oscilloscope

. . . . . .

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast, Brightness } normal
2. Position neck assy as shown in Fig3-2.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (See Figures 3-1 through 3-4.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 3-2.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 3-5.)

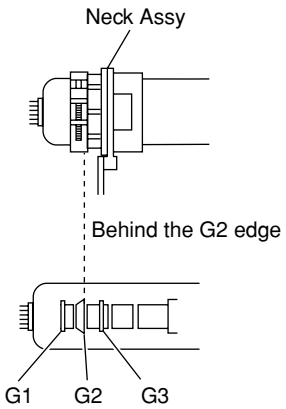


Fig. 3-1

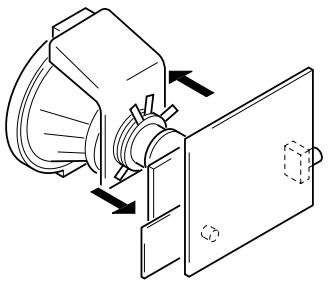


Fig. 3-2

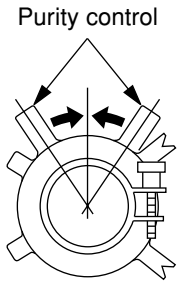


Fig. 3-3

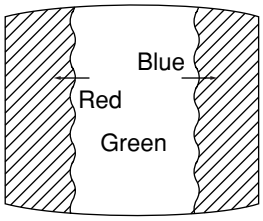


Fig. 3-4

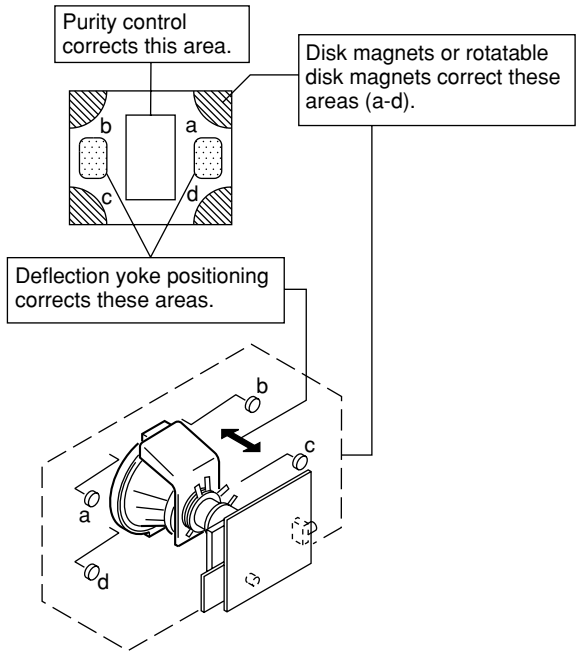


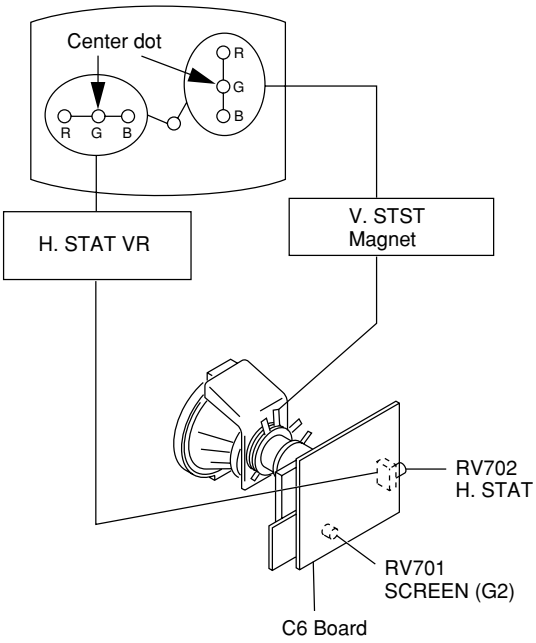
Fig. 3-5

3-2. CONVERGENCE

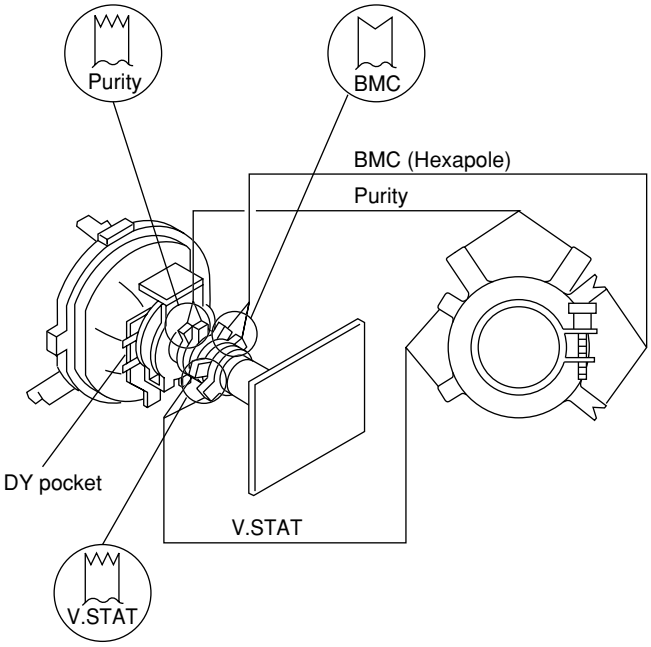
Preparation :

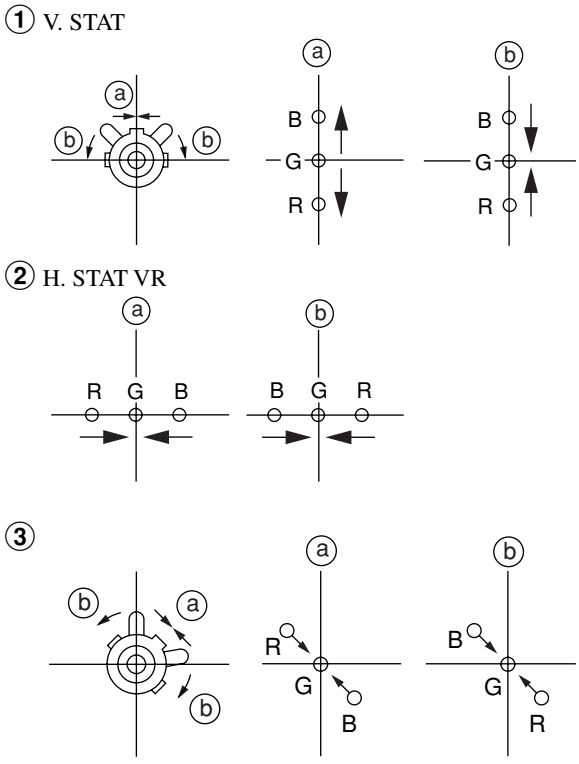
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal.
- Pic mode: Personal (Pic 90%, Brightness 50%, Colour 50 %, Hue 50%, Sharpness 50%).

(1) Horizontal and Vertical Static Convergence

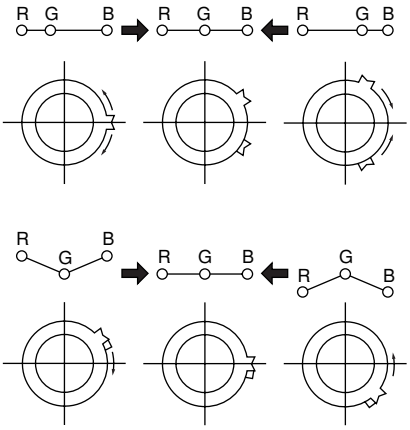


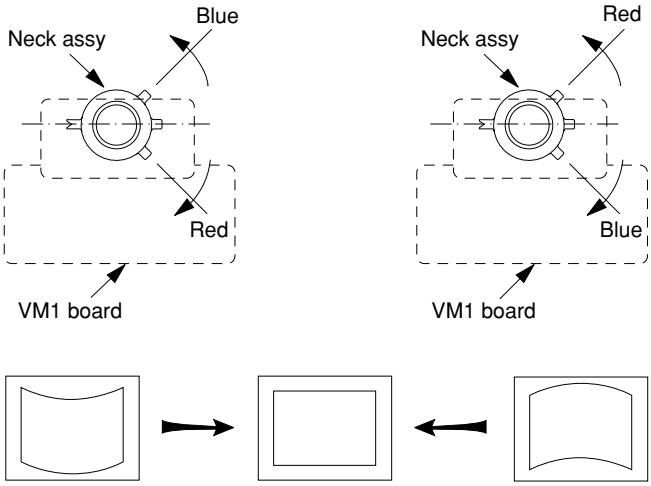
1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)





④ BMC (Hexapole) Magnet.
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.





⑤ Y separation axis correction magnet adjustment.

1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .
2. Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.

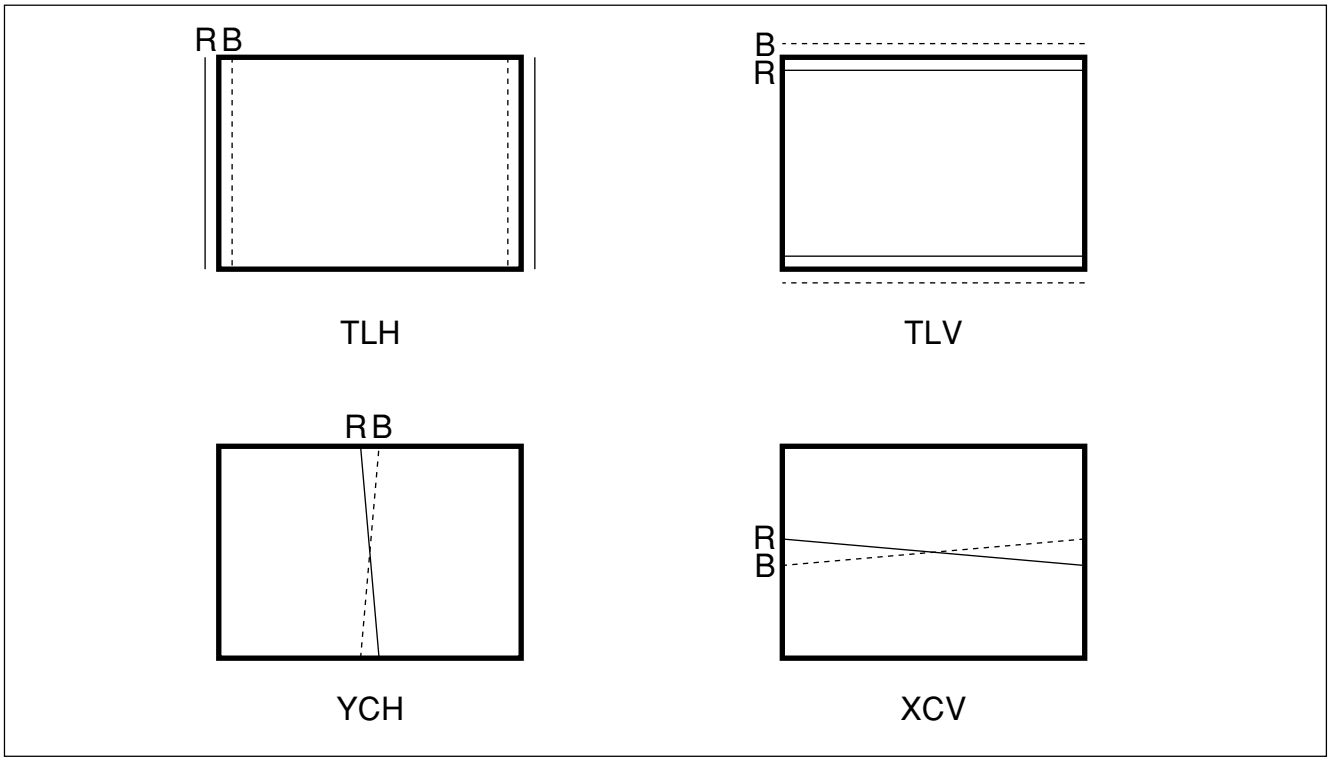
Note

1. The Red and Blue magnets should be equally far from the horizontal center line.
2. Do not separate the Red and Blue magnets too far. (Less than 8 mm)

(2) Dynamic Convergence Adjustment

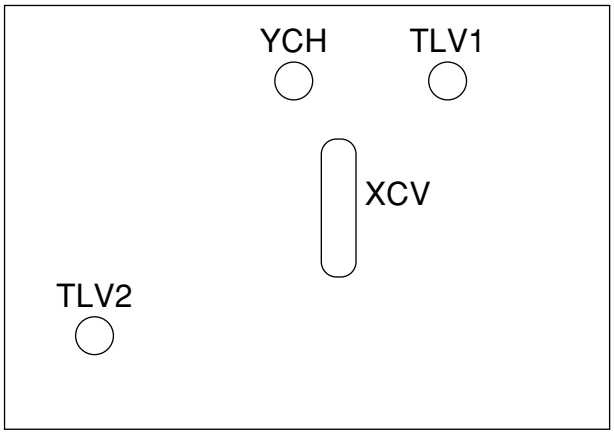
Preparation:

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence

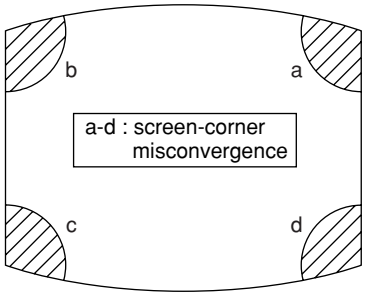


TLV	Rotate	TLV-2	VOL (29”, 34”) on DY
XCV	Rotate	XCV	Adj core on DY
YCH	Rotate	YCH	VOL on DY
TLH	Insert	TLH	Correction Plate to DY Pocket (Left or Right)

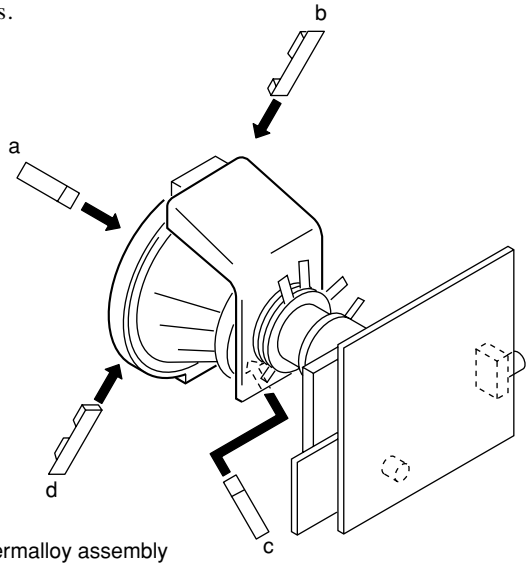
ON DY:



(3) Screen-corner Convergence

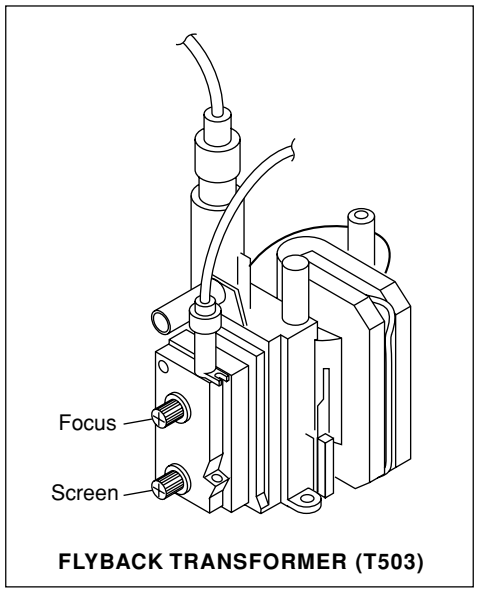


Fix a Permalloy assy corresponding to the misconverged areas.



3-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before W/B adjustment.



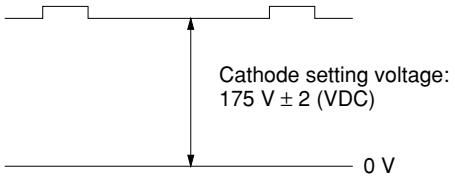
FLYBACK TRANSFORMER (T503)

1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "Standard".
3. Set S2801 to mechanical center position.
4. Adjust focus VR so that the center of the screen becomes just focus.
5. Adjust S2801 when corner focus is unbalance is right and left.
6. Change the receiving signal to white pattern blue back.
7. Confirm Magenta ring is not noticable. Incase magneta ring is obvious, reset S2801 to mechanical center position and then adjust FOCUS VR to balance between MAGENTA RING and FOCUS.

3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C6 board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Adjust G2 (screen) on the FBT until picture shows the point before cut off.

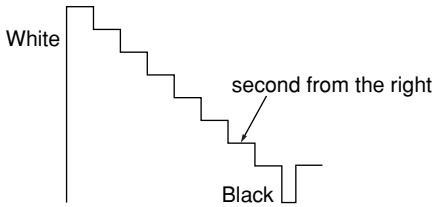


2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 4-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black to white from the pattern generator.
3) BRIGHTNESS .... 50%.
   PICTURE ..... MINIMUM
4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimly lit.



SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this model can be performed using the supplied Remote Commander RM-996.

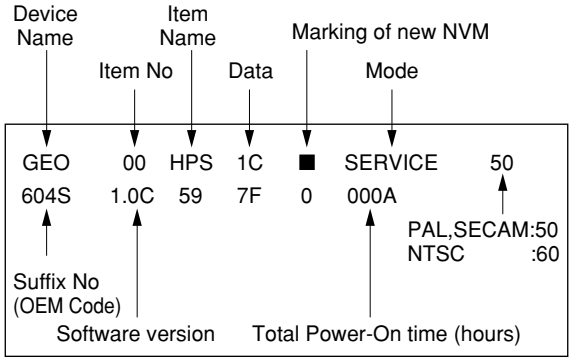
a. ENTERING SERVICE MODE

With the unit on standby

→ DISPLAY → 5 → VOL (+) → POWER

This operation sequence puts the unit into service mode.

The screen display is :



b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press POWER button on the commander), then press POWER button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press 1 (UP) and 4 (DOWN), to select the adjustment.
4) Press MUTING button to indicate WRITE on the screen.
5) Press 0 button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

1, 4 ↓	Select the adjustment item.
3, 6 ↓	Raise/lower the data value.
MUTING ↓	Writes.
0	Executes the writing.

7, 0	All the data becomes the values in memory.
8, 0	All user control goes to the standard state.
5, 0	Service data initialization (Be sure not to use usually.)
MUTING + 0	Write 50Hz adjustment data to 60Hz, or vice versa.
2, 0	Copy and write all data.

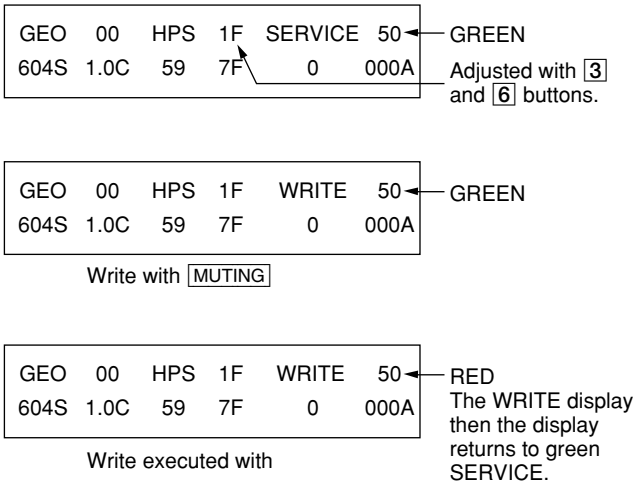
4-2. ADJUSTMENT METHOD

Item Number 00 of device GEO

This explanation uses H-Position as an example.

1. Select "GEO 00 HPS" with the 1 and 4 buttons.
2. Raise/lower the data with the 3 and 6 buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the MUTING button. (The display changes to WRITE.)
5. Execute the writing with the 0 button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-


GEO 00 HPS 1F SERVICE 50
604S 1.0C 59 7F 0 000A
GREEN
Adjusted with 3 and 6 buttons.
GEO 00 HPS 1F WRITE 50
604S 1.0C 59 7F 0 000A
GREEN
Write with MUTING
GEO 00 HPS 1F WRITE 50
604S 1.0C 59 7F 0 000A
RED
The WRITE display then the display returns to green SERVICE.
Write executed with

Use the same method for all Items. Use 1 and 4 to select the adjustment item, use 3 and 6 to adjust, write with MUTING, then execute the write with 0.

Note : 1. In WRITE, the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name (Slave Address)	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
GEO	00	HPS	1E	3F	H Position	Normal(50/60)/Wide(50/60)	CXA2159S(88H)	3B9 (7-2)	A6	(6B/6D)/(6F/71)	7-2	1E (for 60Hz)
	01	HSZ	25	3F	H Size	Normal(50/60)/Wide(50/60)		99 (7-2)	A0/A4	(A0/AD)/(43/4E)	7-2	typical
	02	PAP	1F	3F	Pin Amp	Normal(50/60)/Wide(50/60)		9B (7-2)	A0/A4	(A2/AF)/(45/50)	7-2	typical
	03	TLT	7	0F	Trapezium	Normal(50/60)/Wide(50/60)		9D (7-4)	A0/A4	(A4/B1)/(47/52)	7-4	typical
	04	VPS	1F	3F	V Position	Normal(50/60)/Wide(50/60)		97 (7-2)	A0/A4	(9E/AB)/(41/4C)	7-2	typical
	05	VSZ	1F	3F	V size	Normal(50/60)/Wide(50/60)		96 (7-2)	A0/A4	(9D/AA)/(40/4B)	7-2	typical
	06	SCO	7	0F	S Correction	Normal(50/60)/Wide(50/60)		98 (7-4)	A0/A4	(9F/AC)/(42/4D)	7-4	typical
	07	VLN	7	0F	V Linearity	Normal(50/60)/Wide(50/60)		98 (3-0)	A0/A4	(9F/AC)/(42/4D)	3-0	typical
	08	BOW	7	0F	AFC Bow	Normal(50/60)/Wide(50/60)		9E (7-4)	A0/A4	(A5/B2)/(48/53)	7-4	typical
	09	AGL	7	0F	AFC Angle	Normal(50/60)/Wide(50/60)		9E (3-0)	A0/A4	(A5/B2)/(48/53)	3-0	typical
	0A	UPN	1F	3F	Upper Pin	Normal(50/60)/Wide(50/60)		9C (7-2)	A0/A4	(A3/B0)/(46/51)	7-2	typical
	0B	LPN	1F	3F	Lower Pin	Normal(50/60)/Wide(50/60)		A0 (7-2)	A0/A4	(A7/B4)/(4A/55)	7-2	typical
	0C	HBL	1	1	H Blanking on/off			3BB (1)	A6	73	1	typical
	0D	LBL	0B	0F	Left H Blanking	{Normal(50/60)/Wide(50/60)}		3BA (7-4)	A6	(6C/6E)/(70/72)	7-4	0F (for 60Hz)
	0E	RBL	2	0F	Right H Blanking	{Normal(50/60)/Wide(50/60)}		3BA (3-0)	A6	(6C/6E)/(70/72)	3-0	typical
WHB	00	RDR	25	3F	R Drive	DYNAMIC/others	CXA2159S(88H)	369 (7-2)	A0	C0/BA	7-2	2A (for non-DYNAMIC)
	01	GDR	25	3F	G Drive	DYNAMIC/others		36A (7-2)	A0	C1/BB	7-2	typical
	02	BDR	25	3F	B Drive	DYNAMIC/others		36B (7-2)	A0	C2/BC	7-2	typical
	03	RCT	7	0F	R Cutoff	SECAM/others		36D (3-0)	A0	C3/BD	3-0	typical
	04	GCT	7	0F	G Cutoff	SECAM/others		36E (7-4)	A0	C4/BE	7-4	typical
	05	BCT	7	0F	B Cutoff	SECAM/others		36E (3-0)	A0	C4/BE	3-0	typical
	06	BMN	15	1F	Brightness Minimum Data			106 (6-2)	A0	22	6-2	-
	07	SBR	25	3F	Sub Brightness Control			107 (7-2)	A0	23	7-2	-
	08	APB	0	3	Sub Bright Control Switch for Intelligent Picture #3			107 (1-0)	A0	23	1-0	-
SAJ	00	PMX	38	3F	Picture Maximum Data	non-Wide/Wide	CXA2159S(88H)	105 (7-2)	A0	21/20	7-2	typical
	01	SHU	7	0F	Sub Hue Control	TV/Video		108 (5-2)	A0	24/38	5-2	typical
	02	SSH	5	0F	Sub Sharpness Control	TV/Video		109 (7-4)	A0	25/36	7-4	09 (for VIDEO)
	03	SCL	1F	3F	Sub Color Control	(NTSC/others)/WIDE(NTSC/others)		10A (7-2)	A0	(37/26)/(3C/3B)	7-2	typical

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
VP	00	EHT	5	0F	EHT Comp	Normal(50/60)/Wide(50/60)	CXA2159S(88H)	9D (3-0)	A0[/A4]	A4/B1[/(47/52)]	3-0	typical
	01	GMA	2	3	Gamma Correction (sepatated in STANDARD mode)	NON-STD(NTSC/others)/STD(NTSC/others)		352 (1-0)	A4	68/67/6A/69	1-0	typical
	02	APG	0	1	Gamma Control Switch for Intelligent Picture #3	NON-STD(NTSC/others)/STD(NTSC/others)		352 (2)	A4	68/67/6A/69	2	-
	03	YDL	6	0F	Y Delay	PAL/SECAM/NTSC/DVD		357 (3-0)	A4	3C/3E/3D/3F	3-0	(09/08/08 for SECAM/NTSC/DVD)
	04	SST	1	3	SECAM ID Start Position	SECAM&ATUTO/FORCED-PAL&NTSC		354 (5-4)	A4	6B/6D	5-4	(00 for forced PAL/NTSC)
	05	SSP	1	3	SECAM ID Stop Position	SECAM&ATUTO/FORCED-PAL&NTSC		354 (7-6)	A4	6B/6D	7-6	(03 for forced PAL/NTSC)
	06	RLM	0	3	RGB Limit			5D (1-0)	A0	83	1-0	typical
	07	SLV	2	O3	SECAM ID Level	SECAM&ATUTO/FORCED-PAL&NTSC		355 (1-0)	A4	6C/6E	1-0	(02 for forced PAL/NTSC)
	08	SBF	22	3F	SECAM BELL fO	SECAM&ATUTO/FORCED-PAL&NTSC		355 (7-2)	A4	6C/6E	7-2	(22 for forced PAL/NTSC)
	09	DYC	1	1	Dynamic Color on/off			66 (1)	A0	8C	1	-
	0A	ABL	1	1	ABL Mode Switching (except STANDARD mode)	except STANDARD		65 (1)	A0	8B	1	(00 for STANDARD)
	0B	VTH	1	1	ABL Detection Vth Switching			65 (0)	A0	8B	0	-
	0C	SF0	1	1	FO Switching for Sharpness	NTSC/others		33C (1)	A4	5C/59	1	typical
	0D	DCX	1	1	DC Trans. Ratio Switching			62 (1)	A0	88	1	-
	0E	SHT	1	1	Pre-/Overshoot ratio Switch	NTSC/others		33D (0)	A4	5D/5A	0	typical
	0F	HDW	0	1	H Drive Pulse Width Switch			5A (6)	A0	80	6	-
	10	AFC	1	O3	AFC Gain Control	TV/Video/Text		A3 (1-0)	A0	28/29/2A	1-0	(00/01 dor VIDEO/TEXT)
	11	HOS	7	0F	H Oscillation			68 (7-4)	A0	8E	7-4	-
	12	HSS	0	1	Slice Level of H Sync Sep.			69 (1)	A0	8F	1	-
	13	VSS	0	1	Slice Level of V Sync Sep.			69 (0)	A0	8F	0	-
	14	HMS	1	1	Macro Vision C/m off/on	Normal(50/60)/Wide(50/60)		96 (0)	A0[/A4]	9D/AA[/(40/48)]	0	typical
	15	YUV	0	1	Y SEL			5A (2)	A0	80	2	-
	16	CDV	1	3	CD mode for video and RF under no signal	video only		350 (5-4)	A0	2B	5-4	-
	17	RON	1	1	R ON	not memorized		5B (2)	A0	81	2	not memorised
	18	GON	1	1	G ON	not memorized		5B (1)	A0	81	1	not memorised
	19	BON	1	1	B ON	not memorized		5B (0)	A0	81	0	not memorised
	1A	PON	1	1	P ON	not memorized		5A (7)	A0	80	7	not memorised
	1B	AXN	1	1	AXIS SW	(NTSC/others)/wide(NTSC/others)[only DYNA]		10A (0)	A0	37/26[/(3C/3B)]	0	-
	1C	RSL	0	1	RGB SEL			66 (0)	A0	8C	0	-
	1D	VBW	0	3	VBLKW			70 (1-0)	A0	96	1-0	-
	1E	RFP	0	1	REFP			6E (0)	A0	94	0	-
	1F	VMC	0	3	VM Level			5D (3-2)	A0	83	3-2	-
	20	CBF	0	1	Chroma Bandpass Filter			33E (1)	A6	74	1	
	21	CTO	0	1	Chroma Trap Off			33E (0)	A6	74	0	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
AP2	00	BBS	3	0F	Bass Boost Level Setting			3C1 (7-4)	A0	44	7-4	
	01	BCB	0	1	Boost cut select for Sub Bass Control			3C2 (2)	A0	45	2	
	02	SBS	0	3	Sub Bass Level Setting			3C2 (1-0)	A0	45	1-0	
	03	BCT	0	1	Boost cut select for Sub Treble Control			3C3 (2)	A0	46	2	
	04	STS	0	3	Sub Treble Level Setting			3C3 (1-0)	A0	46	1-0	
	05	AGL	0	3	AGC Level Setting			3C5 (3-2)	A0	48	3-2	
	06	BSW	0	1	Bass Boost ON/OFF Switch			3C1 (3)	A0	44	3	
	07	BAS	0	1F	Bass sound mode control	{BSW:1/10}*{dyna/drama/soft}		3C7 (4-0)	A6	{7E/81/84}{75/78/7B}	4-0	
	08	TRE	0	1F	Treble sound mode control	{BSW:1/10}*{dyna/drama/soft}		3C8 (4-0)	A6	{7F/82/85}{76/79/7C}	4-0	
	09	BBE	0	FF	BBE Sound mode Control	{BSW:1/10}*{dyna/drama/soft}		3C9 (7-0)	A6	{80/83/86}{77/7A/7D}	7-0	
MSP	00	WST	15	FF	W/G Stereo Threshold		MSP3415D(84H)	165	A0	60	7-0	-
	01	WBT	EC	FF	W/G Bilingual Threshold			166	A0	61	7-0	-
	02	WLL	5	FF	W/G Monaural Threshold			167	A0	62	7-0	-
	03	WAC	1	0F	W/G Agreement Count			168 (3-0)	A0	63	3-0	-
	04	WDL	30	FF	W/G Search Delay			169	A0	64	7-0	-
	05	NDL	20	FF	NICAM Search Delay			16A	A0	65	7-0	-
	06	SDL	10	FF	Stereo status Read Delay			16B	A0	66	7-0	-
	07	AGC	1	1	AGC Switch Auto/Constant			116 (7)	A0	68	7	-
	08	REL	28	3F	AGC Gain at Constant Mode			116 (6-1)	A0	68	6-1	-
	09	CRM	0	1	Carrier muting on/off			115 (9)	A0	67	1	-
	0A	ACO	1	1	Audio Clock out on/off			11A (5)	A0	69	5	-
	0B	FP	1B	7F	FM Prescale for non-M system			313	A0	6A	6-0	-
	0C	FPM	32	7F	FM Prescale for M system			314	A0	6B	6-0	-
	0D	FH	36	7F	FM Prescale for HDEV			315	A0	6C	6-0	-
	0E	FHM	65	7F	FM Prescale for HDEV and M			316	A0	6D	6-0	-
	0F	WGP	1C	7F	W/G Prescale			317	A0	6E	6-0	-
	10	NIP	7F	7F	NICAM Prescale			14F	A0	6F	6-0	-
	11	ERR	50	FF	Auto FM switch Threshold			174	A0	70	7-0	-
	12	VOL	6D	FF	Loud Speaker gain 7000h to 7ff0h			346	A4	62	7-0	-

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
PIP	00	PRO	0	1	Progreeive Scan Mode Enable		SDA9288X(D6H)	1B1	A4	00	2	-
	01	RED	0	1	Read Double Mode			1B1	A4	00	3	
	02	FEI	0	3	Field Select			1B1	A4	00	1-0	
	03	HPS	35	FF	Horizontal Picture Position			34C	A4	26	7-0	
	04	VPS	1B	FF	Vertical Picture Position			1B3	A4	02	7-0	
	05	HFP	0	0F	Horizontal Fine Positioning			1B4	A4	03	3-0	
	06	VFP	0	0F	Vertical Fine Positioning			1B4	A4	03	7-4	
	07	DIS	0	3	Display standard			1B5	A4	04	7-6	
	08	HOS	0	3	Horizontal Size			1B5	A4	04	3-2	
	09	VES	0	3	Vertical Size			1B5	A4	04	1-0	
	0A	FPS	0	3	Force Parent Standard			1B6	A4	05	7-6	
	0B	HZM	0	7	Horizontal Zoom			1B6	A4	05	2-0	
	0C	VSP	0	1	Vertical Sync Pule Noise Reduction			1B7	A4	06	5	
	0D	VDL	0	1F	Vertical Sync Pulse Delay			1B7	A4	06	4-0	
	0E	FRH	5	7	Frame Width Horizontal			1B8	A4	07	4-2	
	0F	FWV	2	3	Frame Width Vertical			1B8	A4	07	1-0	
	10	VRD	0	1	Reduction			1B8	A4	07	5	
	11	VBK	0	1	Vertical Blanking			1B9	A4	08	5	
	12	DLY	0	F	Select Delay			1B9	A4	08	3-0	
	13	PCR	0	1	Position Correction			1BA	A4	09	7	
	14	AGM	3	3	AGC Mode			1BB	A4	0A	6-5	
	15	AGC	6	F	Automatic Gain Control Value			1BB	A4	0A	4-1	
	16	CVB	0	3	CVBS Select			1BC	A4	0B	7-6	
	17	CPD	1	3	CLAMPING Duration			1BC	A4	0B	5-4	
	18	CPT	1	3	CLAMPING Pulse start			1BC	A4	0B	3-2	
	19	LUM	0	3	Luminance offset			1BC	A4	0B	1-0	
	1A	PLL	0	3	Insert PLL Time Constant	TV/VIDEO		34B	A4	24/25	7-6	
	1B	YCD	2	F	Y/C Delay	PAL/SECAM/NTSC/DVD		3DC	A4	98/99/9A/9B	3-0	
	1C	NSR	0	3	Noise Reduction for insert PII	TV/VIDEO		34B	A4	24/25	5-4	
	1D	LSP	0	1	Standard Identification Speed			1BE	A4	0D	2	
	1E	KIL	0	3	Color Killer Treshold			1BE	A4	0D	1-0	
	1F	BGP	0	1	Burst Gate Position			1BF	A4	0E	7	
	20	SEC	0	1	SECAM Identification level			1BF	A4	0E	6	
	21	DEM	1	3	Deemphasw selection			1BF	A4	0E	5-4	
	22	CMA	0	3	Chroma Bandwith			1BF	A4	0E	1-0	
	23	IFC	2	3	IF Compensation Filter			1C0	A4	0F	7-6	
	24	HUE	0	1F	Hue			1C0	A4	0F	5-0	
	25	SCA	7	1F	Color Subcarrier Adjustment			1C1	A4	10	4-0	
	26	CON	0	F	Contrast Adjustment			1C2	A4	11	7-4	
	27	BLR	0	F	Blanking Level Red Channel			1C2	A4	11	3-0	
	28	BRT	0	F	Brightness Adjustment			1C3	A4	12	7-4	
	29	BLG	0	F	Blanking Level Green Channel			1C3	A4	12	3-0	
	2A	BIR	0	1	Blanking Inversion Red Channel			1C4	A4	13	5	
	2B	BIB	0	1	Blanking Inversion Blue Channel			1C4	A4	13	4	
	2C	BLB	0	F	Blanking level blue channel			1C4	A4	13	3-0	
	2D	INT	0	1	Refresh Interval			1C4	A4	13	6	
	2E	PKR	4F	FF	Peak Level Red Channel			1C5	A4	14	7-0	
	2F	PKG	4F	FF	Peak Level Green Channel			1C6	A4	15	7-0	
	30	PKB	4F	FF	Peak Level Blue Channel			1C7	A4	16	7-0	
	31	FRY	A	F	Frame Color Y			1C8	A4	17	3-0	
	32	OUT	1	1	Output Format			1C9	A4	18	7	
	33	FRU	0	F	Frame Color U			1C9	A4	18	3-0	
	34	FRV	0	F	Frame Color V			1CA	A4	19	3-0	
	35	SAT	7	F	Color Saturation Adjustment			1CB	A4	1A	7-4	
	36	YPK	7	7	Y Peak Adjustment			1CB	A4	1A	3-1	
	37	YCO	0	F	Y Coring Enable			1CB	A4	1A	0	
	38	PAL	3	3	PAL ID level			1CE	A4	1D	1-0	
	39	POV	0	7	Position Offset Vertical			1CF	A4	1E	7-5	
	3A	POH	0	1F	Position Offset Horizontal			1CF	A4	1E	4-0	
	3B	VSH	0	1F	Vertical Shrink			1D0	A4	1F	4-0	-
	3C	HSH	0	1F	H Shrink			1D1	A4	20	4-0	-
	3D	CPL	1	3	CLAMPING Pulse Length			1D2	A4	21	1-0	-

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
YCT	00	SHU	0F	1F	Sub Hue Adjustment	TV/Video	CXA2163AQ(8AH)	39B	A4	7B/7C	4-0	
	01	PNG	1	1	PAL/NTSC Gate Width			7A	A4	28	6	
	02	PNI	0	1	PAL/NTSC Sensitivity SW			7A	A4	28	7	
	03	SCL	7	0F	Sub Color Control	50/60*TV/Video		39D	A4	73/74/75/76	3-0	
	04	SCT	8	0F	Sub Contrast Control	50/60*TV/Video		39D	A4	73/74/75/76	7-4	
	05	SF0	2	3	Sharpness Center Frequency Changing			7C	A4	2A	1-0	
	06	SEQ	3	3	Sharpness Equalizer Characteristic			7C	A4	2A	3-2	
	07	SHG	5	0F	Sharpness Gain Control	50/60*TV/Video/DVD		3AB	A4	92/93/94/95/96/97	7-4	
	08	YOL	1F	3F	Y-Output Level Control			7D	A4	2B	5-0	
	09	BSP	0	3	Black Stretch Start Point Changing	DVD/others		7D	A4	2B	7-6	
	0A	COL	1F	3F	Cb/Cr Output Level Control			3A3	A4	64/63	5-0	
	0B	DCR	0	3	DC Restoration Ratio Adjustment			7E	A4	2C	7-6	
	0C	BF0	1	3	BPF/TQF F0 Adjustment			7F	A4	2D	1-0	
	0D	BFQ	2	3	BPF/TQF Q Adjustment			7F	A4	2D	3-2	
	0E	FSW	1	1	BPF/TQF Switch			7F	A4	2D	4	
	0F	SDT	1	1	SECAM Double Trap Switch			7F	A4	2D	6	
	10	LPF	1	1	Y/Cb/Cr LPF Switch			7F	A4	2D	7	
	11	YDL	6	0F	Y-DL Time Adjustment	TV/Video/S-input/DVD		39A	A4	77/79/7A/78	6-3	
	12	CMT	0	1	Cb/Cr Output Mute Switch			81	A4	2F	7	
	13	B01	7	0F	Cb Offset 1 Adjustment (main route)			82	A4	30	7-4	
	14	RO1	7	0F	Cr Offset 1 Adjustment			82	A4	30	3-0	
	15	CDF	0	7	V Count Down Frequency Switch	forced 50Hz for no signal		3A9	A4	7D	2-0	
	16	CDM	0	3	V Count Down Judge Switch			84	A4	32	4-3	
	17	AFC	0	3	AFC Sensitivity Switch	(TV/)Video/DVD		3A5	A4	71/72	6-5	
	18	MVM	1	1	Macrovision Mask + AFC Mask			84	A4	32	7	
	19	SRY	7	0F	SECAM R-Y Black Adjustment			85	A4	33	3-0	
	1A	SBY	1	0F	SECAM B-Y Black Adjustment			85	A4	33	7-4	
	1B	BEL	2	3	SECAM BELL/HPF Switching			86	A4	34	1-0	
	1C	BLF	0	1	BELL f0 Adjustment			86	A4	34	2	
	1D	SVI	0	1	SECAM V-ID Switch			86	A4	34	3	
	1E	SGP	0	3	SECAM Gate Position Adjustment			86	A4	34	5-4	
	1F	SID	1	1	SECAM Sensitivity Switch	except SECAM		3A7	A4	3A	6	
	20	SIH	0	1	SECAM Inhibition Switch			86	A4	34	7	
	21	STP	0	1	Y Black Level Setup for PAL plus			87	A4	35	1	
	22	ASW	1	1	Auto Video select mode SW			87	A4	35	7	
	23	WSH	0	3	Sharpness Gain Step for noise reduction			3A1	A4	38	1-0	
	24	WCO	0	3	Cb/Cr Output Level Step for noise reduction			3A2	A4	39	7-6	
	25	CB2	7	0F	Cb2 offset adjustment (YCbCr2 input)			83	A4	31	7-4	
	26	CR2	7	0F	Cr2 offset adjustment (YCbCr2 input)			83	A4	31	3-0	
	27	HPH	0	1	HS Output phase switch			87	A4	35	3	
	28	VPH	0	1	Switch for VP output phase			88	A4	36	6	
	29	NCM	0	1	NTSC COMB			80	A4	2E	7	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
TE	00	NR0	01	07	NR	NTSC/Others	DTE (EOH)	3AC	A6	5F/61	6-4	
	01	TC0	04	0F	TE Coring	NTSC/Others		3AC	A6	5F/61	3-0	
	02	TG0	05	07	TE Gain	NTSC/Others		3AD	A6	60/62	2-0	
	03	STH	00	01	Forced TE bypass 1:TE bypass			3B0	A6	63	1	
	04	COF	00	01	Color Component OFF 1:OFF(512)			386	A6	4D	2	
	05	YOF	00	01	Luminance Component OFF 1:OFF			386	A6	4D	1	
	06	VJR	00	03	V jitter control 0:ON 1:SP1 2:SP2 3:SP2			388	A6	4F	3-2	
	07	TOF	00	01	TE OFF 1: TE OFF			3B0	A6	63	7	
	08	DOF	00	01	Dot NR OFF 1:Dot NR OFF			3B0	A6	63	6	
	09	FOF	01	01	TE LPF OFF 1:LPF OFF			389	A6	50	5	
	0A	CTH	00	01	Color TE OFF 1:OFF			389	A6	50	4	
	0B	PSL	02	03	TE Parameter Selection			389	A6	50	1-0	
	0C	CLP	08	0F	Input Clamp Level			38A	A6	51	7-4	
	0D	CL2	08	0F	Output Clamp Level			38A	A6	51	3-0	
	0E	LA1	00	0F	Level depend Gain (+, White)			38F	A6	56	7-4	
	0F	LA2	01	0F	Level depend Gain (+, Black)			38F	A6	56	3-0	
	10	LA3	0F	0F	Level depend Gain (-, White)			390	A6	57	7-4	
	11	LA4	01	0F	Level depend Gain (-, Black)			390	A6	57	3-0	
	12	CRW	04	07	TE Y/C Compensation ratio			396	A6	5D	2-0	
	13	YCD	03	07	TE Y/C output delay adjustment			387	A6	4E	2-0	
	14	OSO	00	03	OFF Sharpness Offset in YCJ			3B0	A6	63	3-2	
NR	00	DMO	00	01	NR Demo Mode ON/OFF (1=Demo Mode)		DTE (BEH)	379	A6	41	1	
	01	THV	03	07	Offset of Noise Threshold level for vertical direction			3B3	A6	65	7-5	
	02	THH	0F	1F	Offset of Noise Threshold level for horizontal direction			3B3	A6	65	4-0	
	03	BLL	07	0F	Offset of Level detection for Black Level			3B4	A6	66	7-4	
	04	CST	07	0F	Offset of Level detection for Color Level			3B4	A6	66	3-0	
	05	THC	07	0F	Offset of Edge Detection Threshold			3B5	A6	67	3-0	
	06	NRF	00	01	NR0 always Rank = 0			3B7	A6	64	0	
	07	DIG	00	01	A/D in or Digital In (1=Digital In)			381	A6	49	5	
TXT	00	TXH	0	3	Teletext Horizontal Position		SAA5261(58H)	33A (1-0)	A4	58	1-0	-
	01	TXV	0	3	Teletext Vertical Position			33A (5-4)	A4	58	5-4	-
OPM	00	OSH	0D	3F	OSD H Position	Option - Misc	CXP750097(60H)	19B (7-2)	A0	27	7-2	-
	01	COM	2	3	Comb Selection (0: None, 1: NTSC, 2: Multi, 3: 3D) [NON-DTE] (0: None, 1: Multi, 2: 3D, 3: None) [DTE]			331 (7-6)	A0	50	7-6	-
	02	APC	1	1	APC Switch			330 (5)	A0	4F	5	-
	03	TSY	0	3	TV Sys at Auto TV Sys			330 (4-3)	A0	4F	4-3	-
	04	MUT	0	1	No signal Mute			330 (0)	A0	4F	0	-
	05	AFM	1	1	Auto FM switch			330 (1)	A0	4F	1	-
	06	RFB	0	3	C-BPF Control			331 (5-4)	A0	50	5-4	-
	07	TVO	2	7	Tilt to V-Angle offset			331 (2-0)	A0	50	2-0	-
	08	DBL	0	1	Disable Blueback Function			330 (2)	A0	4F	2	-
	09	SSO	1	3	Speed Search Option (0: Off, 1: 4x, 2: 6x, 3: 8x)			330 (7-6)	A0	4F	7-6	-
	0A	SCH	1	7F	CH Selection for Shipping Condition	NTSC models only		373 (0-6)	A0	3D	6-0	-
	0B	SCA	1	1	Cable/Air selection for shipping condition	NTSC models only		373 (7)	A0	3D	7	-
	0C	POR	0	1	Power on Reset Detection From YCT			331 (3)	A0	50	3	-
	0D	NRC	3	FF	N-Det Counter for PICSI			3DF (7-0)	A0	3E	7-0	-
	0E	RUC	0F	0F	RF Signal Change Counter after Unlocked			3E4 (3-0)	A0	4E	3-0	-
	0F	RLC	0F	0F	RF Signal Change Counter after Locked			3E3 (3-0)	A0	4D	3-0	-
	10	BYP	0	1	Bypass PICSI			3B0 (0)	A6	63	0	-
	11	PBL	0	1	PICSI ON/OFF Blanking			3E2 (0)	A6	68	0	-
OPB	00	OP1	FF	FF	Optional Bits 1 (see below)	Option - Bits	CXP750097(60H)	4E	A0	2D	7-0	-
	01	OP2	67	FF	Optional Bits 2 (see below)			4F	A0	2E	7-0	-
	02	OP3	31	FF	Optional Bits 3 (see below)			50	A0	2F	7-0	-
	03	OP4	97	FF	Optional Bits 4 (see below)			51	A0	30	7-0	-

NOTE

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

ITEM INFORMATION

No. OPB0 OP1

Item	XTAL 4.43	XTAL 3.58	SECAM	AR34/29*	B/G	I	D/K	M
KV-AR29K90	1	1	0	1	1	1	1	1

(APPLICABLE FOR XF-L(21" & 14") MODELS ONLY.

AR34/29* SHG Offset in YCT 0 = AR29/25 1 = AR34

No. OPB1 OP2

Item	TOP	NICAM	HDEV	Thai Bil	PIP 4	DVD Input	AV Input	
KV-AR29K90	1	1	1	0	1	1	1	1

AV Input 00 = no AV Input 01 = 1 AV Input
10 = 2 AV Input 11 = 3 AV Input

DVD Input Effective only when "AV Input" is set to 3 AV Input

PIP 4 PIP 4 0 = disabled, 1 = enabled

No. OPB2 OP3

Item	Initial menu	AP2	Auto PIC	A-TVsys	US ST	DTE	Forced 50/60	Colour SW*2
KV-AR29K90	1	1	1	1	0	1	0	1

Initial Menu Initial Menu Setup 0 = disabled, 1 = enabled

AP2 Auto Processor Selection 0 = AP, 1 = AP2.

Auto PIC*3 Auto Picture Improvement 0 = off PNC1/PNC2
1 = activate PNC1/PNC2

A-TVsys Auto TV System in Auto Program 0 = disabled, 1 = enabled

US ST* USA Stereo 0 = disabled, 1 = enabled

DTE DTE Model Selection 0 = Non DTE, 1 = DTE

Forced 50/60 Forced to 50/60 Hz during no signal condition 0=60Hz, 1=50Hz

Color SW*2 Color Data Selection in Dynamic Mode 0 = 65 (No PIP), 1 = 57 (PIP)

Note: *1 - For XA21/XH29 Models Only
*2 - For XA34/29/25 Models Only
*3 - For PNC3, the enables are from service item APG and APB.

No. OPB3 OP4

Item	PNC2	Korean ST	Vid NTSC3.58	Wide	Video3	Chinese(multi mdl)	Arabic/C.Chinese	Thai/Korean
KV-AR29K90	0	0	0	0	0	1	1	1

APPLICABLE TO XS ONLY - Sub Language Selection (Bit 0 - Bit 2)

Korean Stereo* Korean Stereo 0 = disabled, 1 = enabled

PNC2*2 Enable switch of PNC2 0 = disable, 1 = enable

Video NTSC3.58* Video Color System 0 = Multi System, 1 = Single System (NTSC3.58)

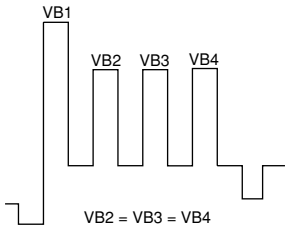
Wide Enable wide mode 0 = disable, 1 = enable

Note : *APPLICABLE FOR NTSC MODELS ONLY

4-3. ADJUSTMENT FOR NON DIGITAL TEXTURE ENHANCER (DTE) MODEL (not used for this model)

SUB COLOR ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust the VB2=VB3=VB4 [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Input NTSC Color Bar to set and repeat items (3 to 7).
8. Select "WIDE" mode, write the "SAME DATA- 3 STEPS" for both PAL and NTSC Color Bar input.



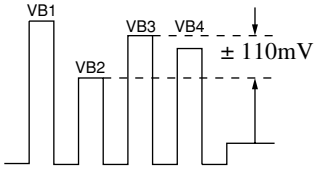
VB2 = VB3 = VB4 (Difference is within 70mV)

SUB COLOR ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust the VB2=VB3=VB4 [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Add 6 steps and save the data.
8. Input NTSC Color Bar to TV set and repeat items 3 to 7.
9. Select "WIDE" mode, write the "SAME DATA- 3 STEPS" for both PAL and NTSC Color Bar input.

SUB HUE ADJUSTMENT

1. Select Video 1.
2. Input a NTSC 3.58 color-bar, video into Video 1.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Select SAJ 1 "SHU" with [1] and [4] of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with [3] and [6].



VB1 = VB2 = VB3 = VB4

The highest level of VB1,VB2,VB3,VB4 must be aligned at the same line. Ideal difference level between VB2 and VB3 should be within ± 110mV.

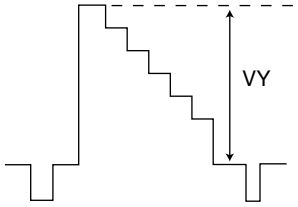
6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ 1 "SHU" as step 3 to 6 when receiving TV mode.

4-4. ADJUSTMENT FOR DIGITAL TEXTURE ENHANCER (DTE) MODEL

Y LEVEL ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar to TV set (white reference 100%).
3. Set the following condition:
   DTE : ON
   Picture Mode : Dynamic
4. Connect an oscilloscope to pin ① (CV/Y in) of CN106, A Board.
5. Set to Service Mode and YCT 08 'YOL' with [1] and [4] of the commander then adjust to VY within spec with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select RF.
8. Repeat item [2] to [4].
9. Set to Service Mode and YCT 04 'SCT' with 1 and 4 of the commander then adjust to VY within spec with [3] to [6].
10. Copy SCT data to NTSC (RF).

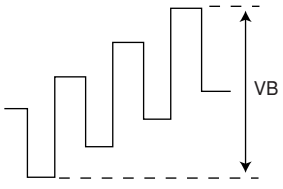
SCT Setting (Video Mode) : 07h (NTSC & PAL)



SPEC: VY : 1.2 Vpp ± 0.05m Vpp

SUB COLOR (YCT) ADJUSTMENT

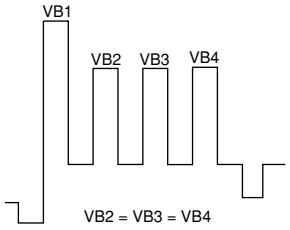
1. Select Video.
2. Input NTSC Color Bar.
3. Set the following condition:
   DTE : ON
   Picture Mode : Dynamic
   NTSC 75% Color Bar
4. Connect an oscilloscope to pin ② (B-Y in) of CN303, A Board.
5. Set to Service Mode and YCT 0A 'COL' with [1] and [4] of the commander then adjust to VB within spec with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select RF.
8. Repeat item no [2] to [4].
9. Set to Service Mode and YCT 03 'COL' with [1] and [4] of the commander then adjust the waveform within spec with [3] and [6].
10. Then press [MUTING] → [0] to write the data.
11. Input PAL Color Bar (75%) and repeat item no 8 to 10.



SPEC :
VIDEO : VB = 0.931 Vpp ± 50 mVpp
RF : VB = 0.931 Vpp ± 50 mVpp

SUB COLOR (YCJ) ADJUSTMENT

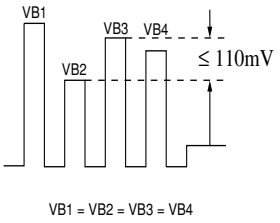
1. Select Video.
2. Input PAL Color Bar to TV set.
3. Set the following condition:
   Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ② (B output) of CN305, A Board.
5. Set to Service Mode and SAJ 03 'SCL' with [1] and [4] of the commander then adjust to VB2 = VB3 = VB4 = with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Add offset steps and save the data.
   Offset: 25... 0
   29... 0
   34... 0
8. Input NTSC color bar to TV set and repeat item no 3 to 7.
10. Select "WIDE" mode, write the "SAME DATA - 3 STEPS" for both PAL and NTSC input.



VB2 = VB3 = VB4 (Difference is within 70mV)

SUB HUE ADJUSTMENT

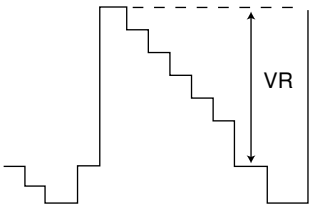
1. Select Video.
2. Input NTSC 3.58 Color Bar to TV Set.
3. Set the following condition:
   Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ① (B output) of CN305, A Board.
5. Set to Service Mode and YCT 00 'SHU' with [1] and [4] of the commander then adjust to VB1 = VB2 = VB3 = VB4 = with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select RF.
8. Input NTSC 3.58 and repeat item no 3 and 6.



The highest level of VB1, VB2, VB3, VB4 must be aligned at the same time.
Ideal difference level between VB2 and VB3 should be within ± 110 mVpp.

PMX ADJUSTMENT

1. Select Video (Wide mode: OFF).
2. Input PAL Color Bar to TV set.
3. Set the following condition:
   Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ③ (R output) of CN305, A Board.
5. Set to Service Mode and SAJ 00 'PMX' with [1] and [4] of the commander then adjust to VR within spec with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select "Wide" mode, write the "SAME DATA- 5 STEPS".



VR = 2.35 Vpp
(Difference is within 50 mVpp)

VP 06 RLM : 03H
17 R ON : 01H
18 G ON : 00H
19 B ON : 00H
After adjustment, these adjustment parameters must be recovered to the original condition.

4-5. DISPLAY POSITION ADJUSTMENT

(not used for this model)

PIP POSITION

1. Input a PAL color-bar.
2. Press PIP button of the remote commander to set the PIP picture.
3. Set to Service Mode.
4. Use [1] and [4] of the remote commander to select PIP 03 "HPS" and use [3] and [6] to set data "15".
5. Select PIP 04 "VPS" to set data "2E".
6. Press [MUTING] → [0] of the remote commander to write the data.
7. Use the screen display menu changing the PIP position to check the PIP position.

4-6. DEFLECTION ADJUSTMENT

NORMAL MODE (50Hz)

1. Set Video Mode.
2. Using the [1] and [4] button, select category GEO (Service Mode).
3. Raise/lower the data using the [3] and [6] buttons. Select and adjust the following items to obtain optimum image.

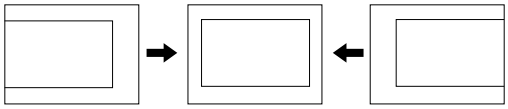
Service Item

GEO :	00	HPS	H POSITION
	01	HSZ	H SIZE
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

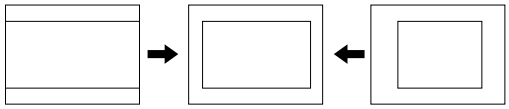
4-7. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

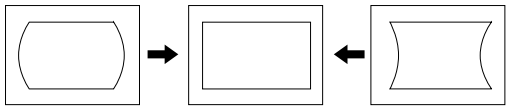
GEO 0 HPS (H POSITION)



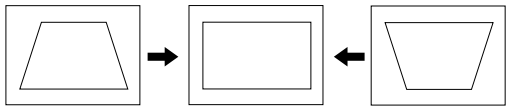
GEO 1 HSZ (H SIZE)



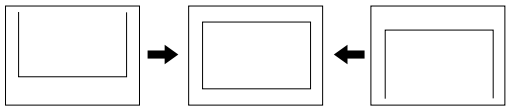
GEO 2 PAP (PIN AMP)



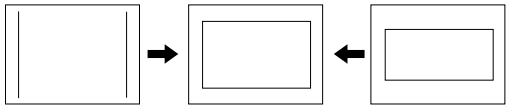
GEO 3 TLT (TRAPEZIUM)



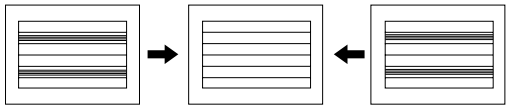
GEO 4 VPS (V POSITION)



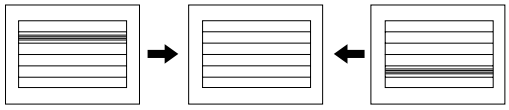
GEO 5 VSZ (V SIZE)



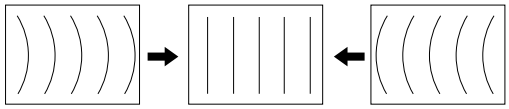
GEO 6 SCO (VERTICAL S-Correction)



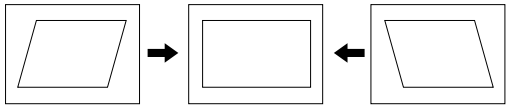
GEO 7 VLN (V LINEARITY)



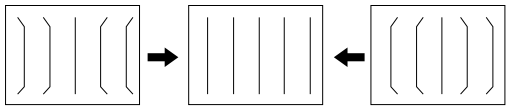
GEO 8 BOW (AFC. BOW)



GEO 9 AGL (AFC. ANGLE)

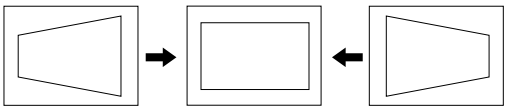


GEO 0A UPN (UPPER CORNER PIN)
GEO 0B LPN (LOWER CORNER PIN)



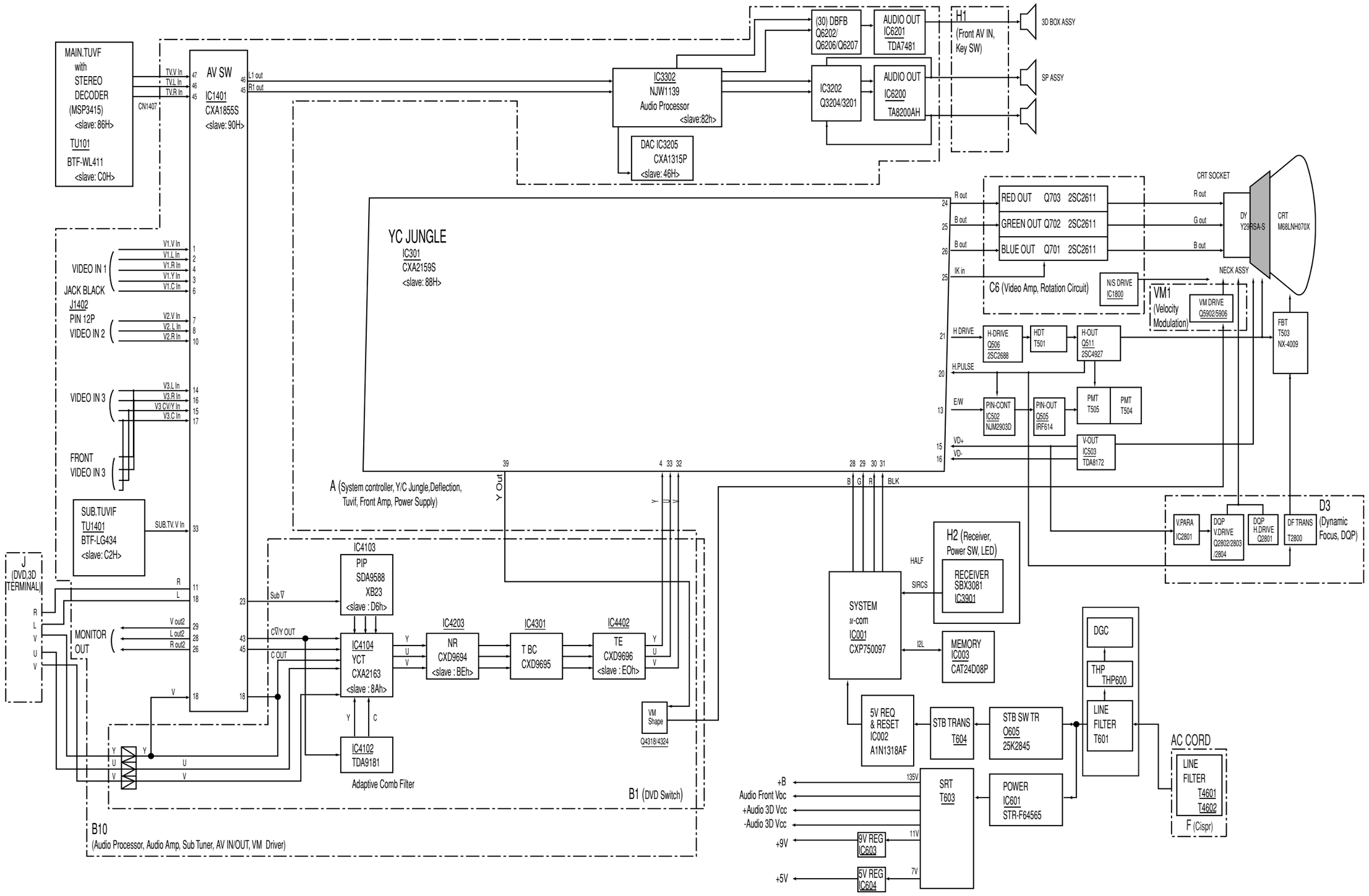
PICTURE DISTORTION ADJUSTMENT (2)

H-TRAPEZOID (DAC 4 HTR)

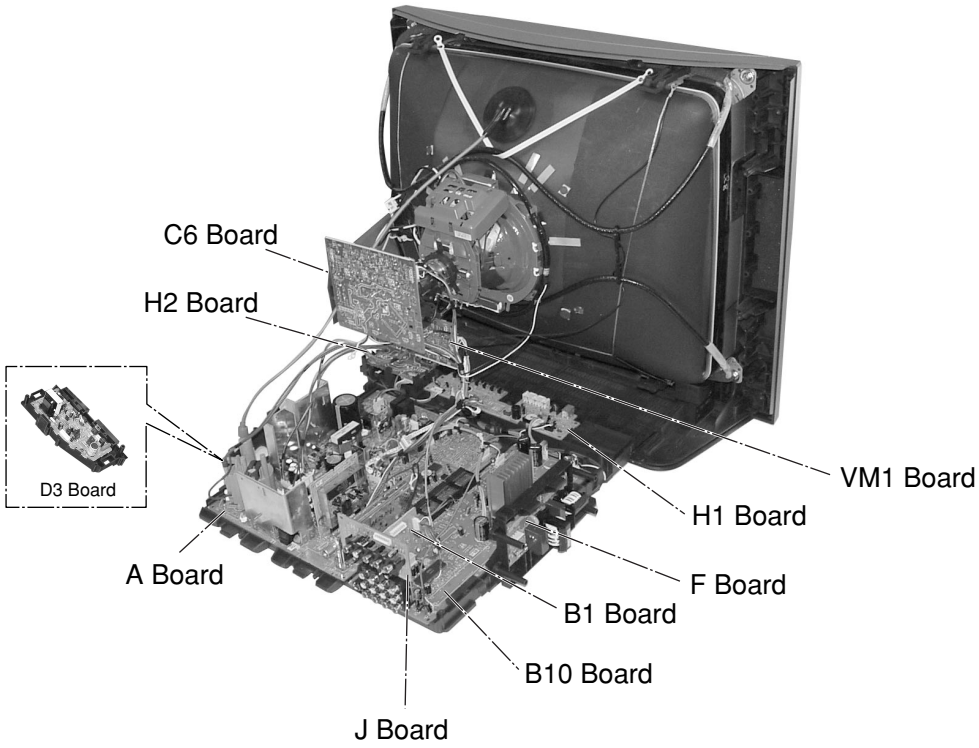


SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAM

Note:

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

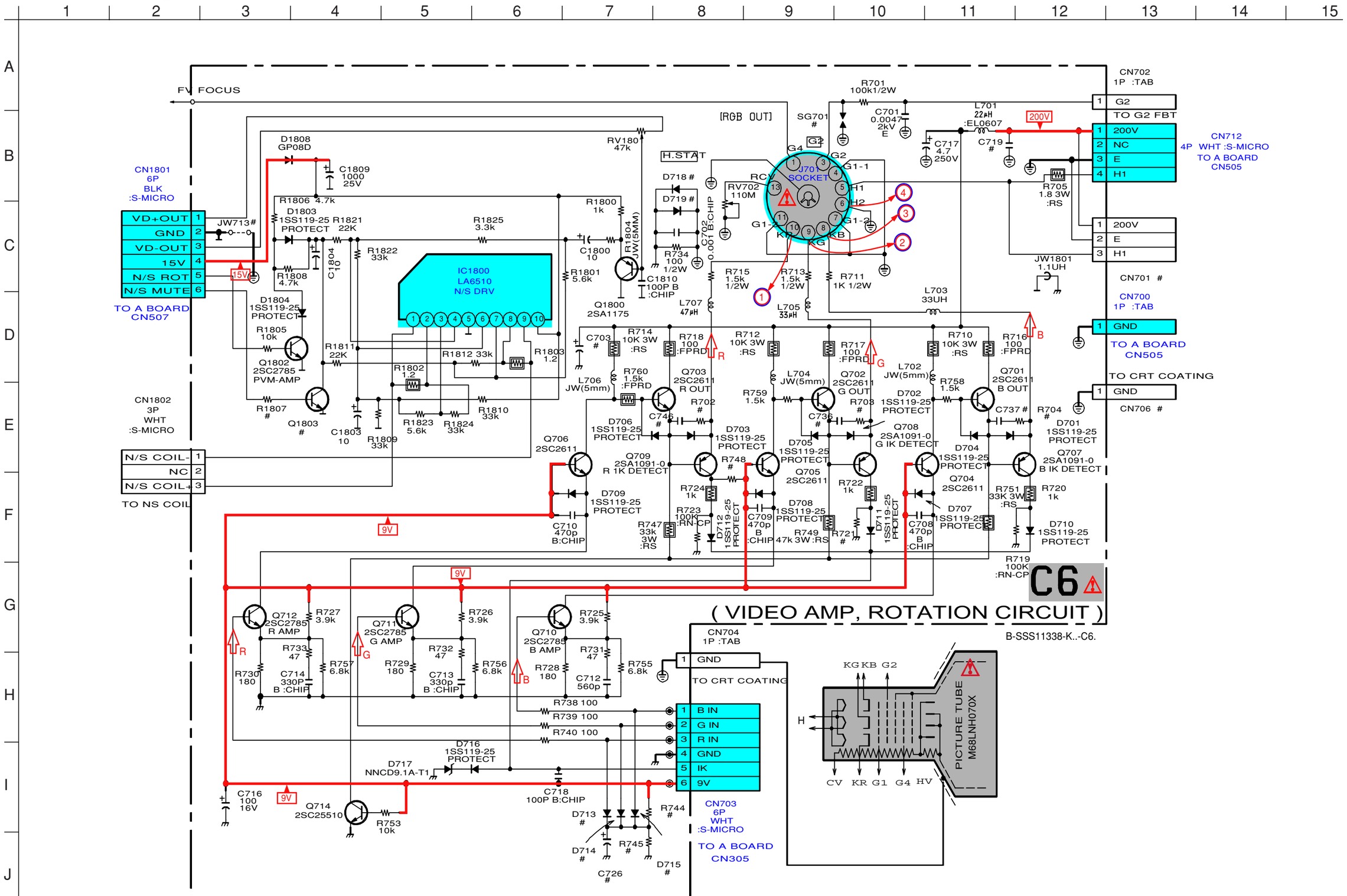
- : nonflammable resistor.
- △ : internal component.
- : panel designation or adjustment for rrepair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Redings are taken with a color-bar signal input.**
  no mark : Common
  ( ) : PAL
  [ ] : NTSC 3.58
- **Readings are taken with a 10MΩ digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in V.**
- **✻ : Cannot be measured.**
- **Circled numbers are waveform references.**
- **: B +bus.**
- **: B –bus.**
- **: signal path.**

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1) C6 Board Schematic Diagram



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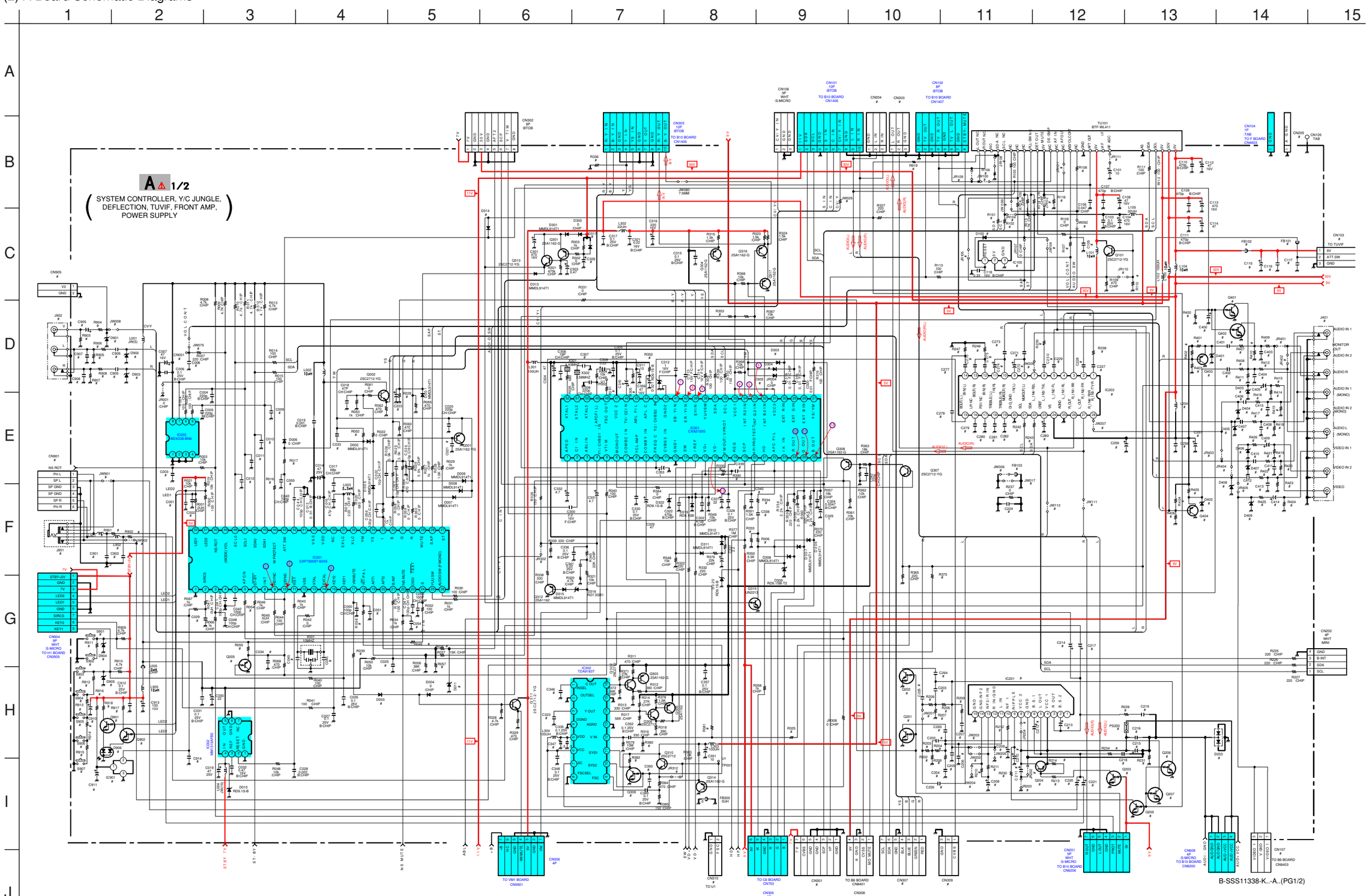
(2) A Board Schematic Diagrams



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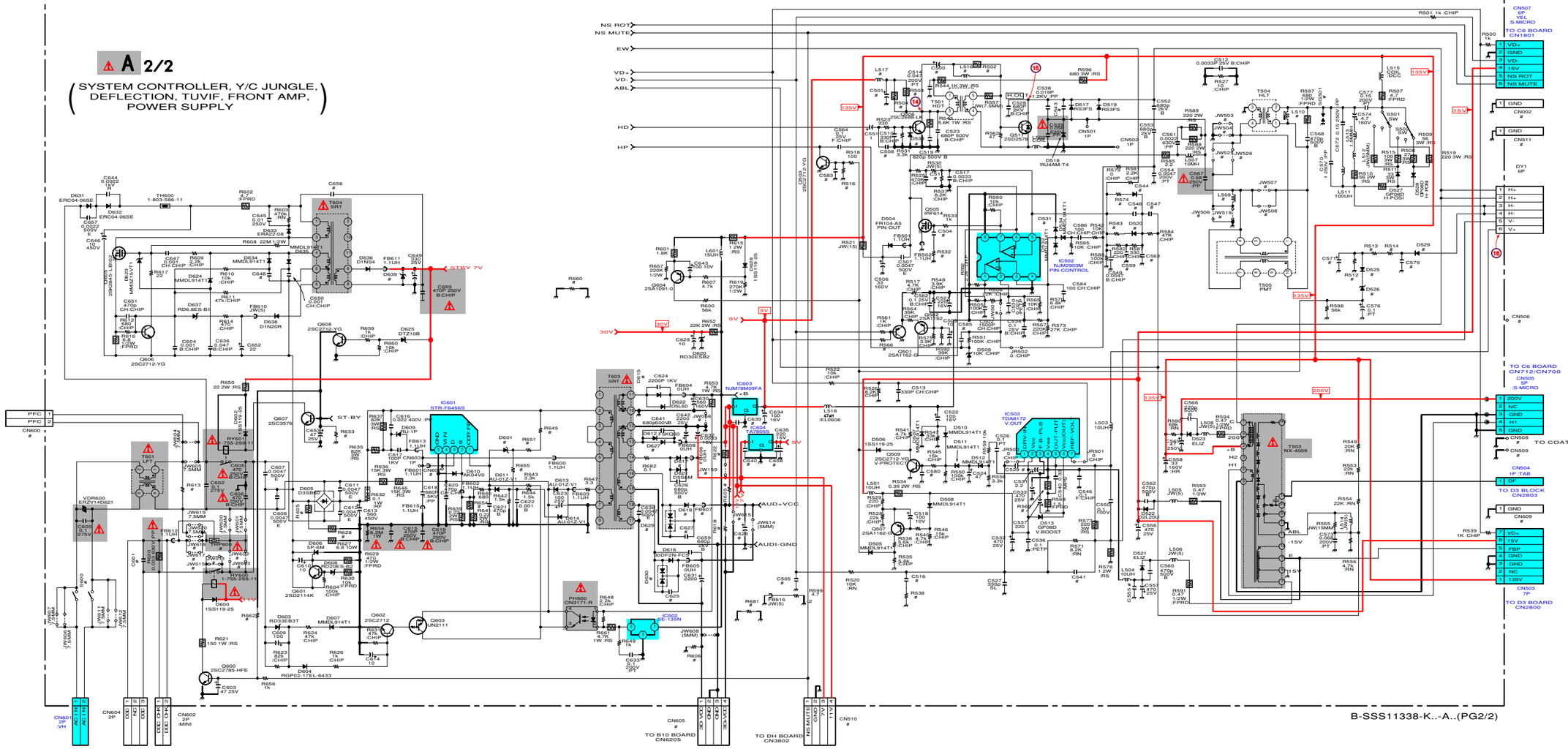
⚠ A 2/2

(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)


NS ROT
NS MUTE
EW
VD-
VD-
ABL
HD
HP
IC601 STR-F6456S
IC602 AN5625
IC603 NJM78M09FA
IC604 NJM79M09FA
IC502 NJU6503M PIN-CONTROL
IC503 TDA8177 V.OUT
IC602 BE-139N
Q501 2SD2057K
Q502 2SC2688-LH
Q503 UN2111
Q504 2SC2712-YG
Q505 IRF614
Q506 2SC2712-YG
Q507 2SA1162-G
Q508 2SC2712-YG
Q509 2SC2712-YG
Q601 2SD2114K
Q602 2SC2712
Q604 2SA1091-O
Q606 2SC2712-YG
Q607 2SC3576
Q608 2SC2712-YG
Q901 2SA1162-G
Q902 2SA1162-G
D504 FR104-A5 PIN-OUT
D505 MMDL914T1
D506 1SS119-25
D507 MMDL914T1
D508 MMDL914T1
D509 2SC2712-YG
D510 MMDL914T1
D511 MMDL914T1
D512 MMDL914T1
D513 GP08D V.BOOST
D517 RS3FS
D518 RU4AM-T4
D519 RS3FS
D520 RS3FS
D521 EU2Z
D522 EU2Z
D523 EU2Z
D525 MA8068-H
D526 MA8068-H
D529 MA8068-H
D600 1SS119-25
D601 AK04V0
D602 AU-01Z-V1
D603 RD33E83T
D604 RG02-17EL-6433
D605 D3SB60
D606 SP-6M
D607 MMDL914T1
D608 RD20ES-B2
D609 1SS119-25
D610 AK04V0
D611 AU-01Z-V1
D612 FKDG30
D613 AU-01Z-V1
D614 AU-01Z-V1
D615 RD20ES-B2
D616 SDD2FZN-FC-G
D618 FM607
D619 FM607
D620 RD30ES-B2
D621 EU2Z
D622 DD5.6
D623 EU2Z
D624 MMDL914T1
D625 DTZ10B
D626 MA8068-H
D627 RD6.8ES-B1
D628 MA8068-H
D629 MA8068-H
D630 MA8068-H
D631 ERC04-06SE
D632 ERC04-06SE
D633 ERA22-08
D634 MMDL914T1
D635 D1N54
D636 D1N54
D637 RD6.8ES-B1
D638 D1N20R
D639 D1N54
D640 MMDL914T1
D641 MMDL914T1
D642 DD5.6
D643 100 10V
D644 MMDL914T1
D645 MMDL914T1
D646 MMDL914T1
D647 MMDL914T1
D648 MMDL914T1
D649 MMDL914T1
D650 MMDL914T1
D651 MMDL914T1
D652 RD30ES-B2
D653 RD30ES-B2
D654 MMDL914T1
D655 MMDL914T1
D656 MMDL914T1
D657 MMDL914T1
D658 MMDL914T1
D659 MMDL914T1
D660 MMDL914T1
D661 MMDL914T1
D662 MMDL914T1
D663 MMDL914T1
D664 MMDL914T1
D665 MMDL914T1
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D668 MMDL914T1
D669 MMDL914T1
D670 MMDL914T1
D671 MMDL914T1
D672 MMDL914T1
D673 MMDL914T1

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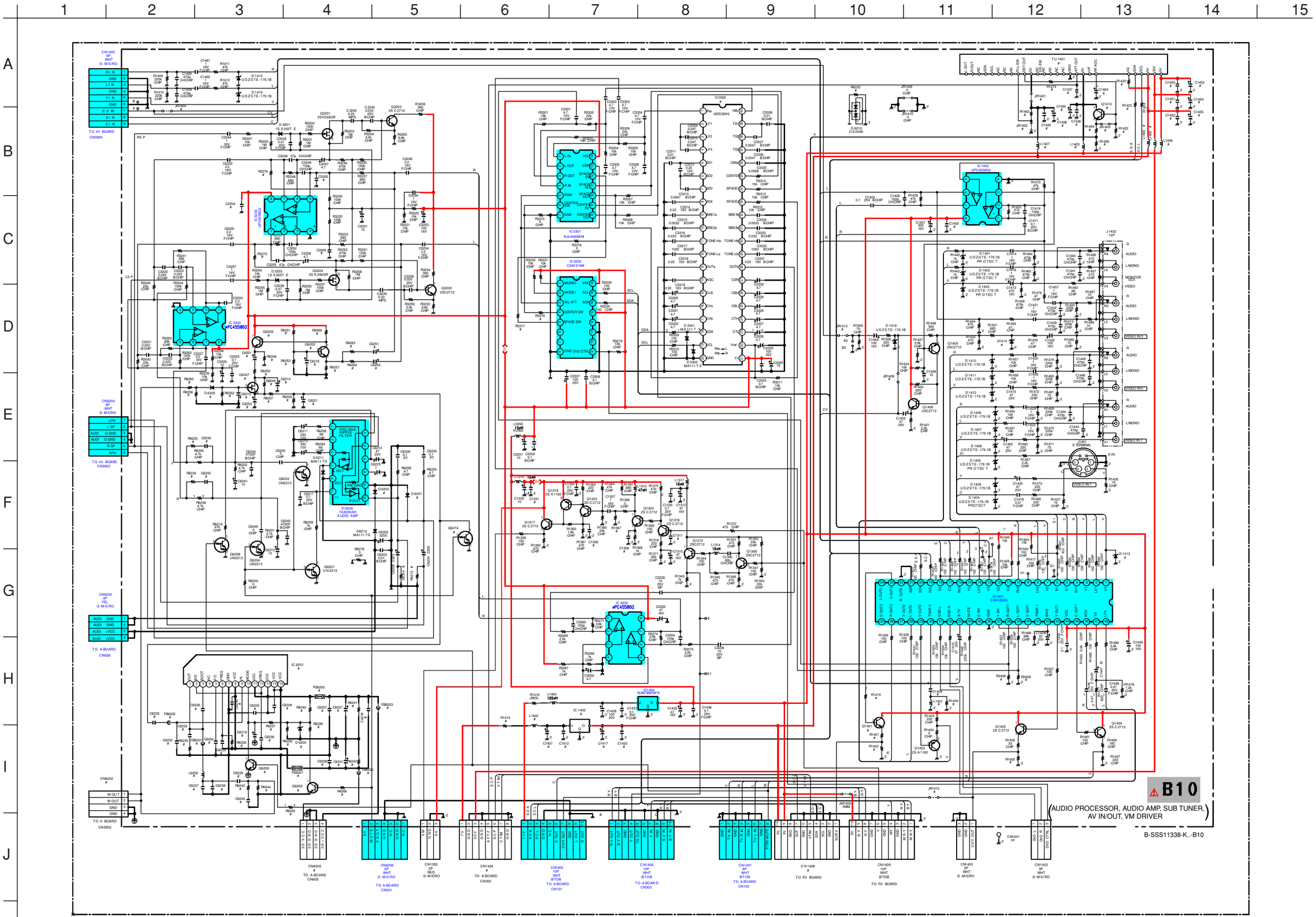
(3) B10 Board Schematic Diagram


B10
(AUDIO PROCESSOR, AUDIO AMP, SUB TUNER, AV IN/OUT, VM DRIVER)
B-SSS11338-K..-B10
IC 3202 μPC455802
IC 3203 μPC455802
IC3301 NJU4068M
IC3205 CXA1315M
IC6205 TA8200AH AUDIO AMP
IC1402 UPC4556G2
IC1401 CXA1855S
TU1401
CN6204 6P WHT :S-MICRO
TO H1 BOARD CN3904
CN6202 6P WHT :S-MICRO
TO H BOARD CN3902
CN6200 6P YEL :S-MICRO
TO A BOARD CN608
CN6202
TO H BOARD CN3903
CN6205 5P WHT :S-MICRO
TO A BOARD CN605
CN6206 5P WHT :S-MICRO
TO A BOARD CN201
CN1300 3P RED :S-MICRO
CN1404 TO A BOARD CN302
CN1405 10P WHT :BTOB
TO A BOARD CN101
CN1406 10P WHT :BTOB
TO A BOARD CN203
CN1407 8P WHT :BTOB
TO A BOARD CN102
CN1408 TO P2 BOARD
CN1409 10P WHT :BTOB
TO P2 BOARD
CN403 3P WHT :S-MICRO
CN1402 3P WHT :S-MICRO
CN401 1P
J1402 13P
J1401 S TERMINAL
JW1400 SMM
JR1412
JR1409
JR1410
JR1406
JR1401
JR1402
JR1403
JR1404
JR1405
JR1407
JR1408
JR1411
JR1413
JR1414
JR1415
JR1416
JR1417
JR1418
JR1419
JR1420
JR1421
JR1422
JR1423
JR1424
JR1425
JR1426
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JR1428
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JR1430
JR1431
JR1432
JR1433
JR1434
JR1435
JR1436
JR1437
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JR1441
JR1442
JR1443
JR1444
JR1445
JR1446
JR1447
JR1448
JR1449
JR1450
JR1451
JR1452

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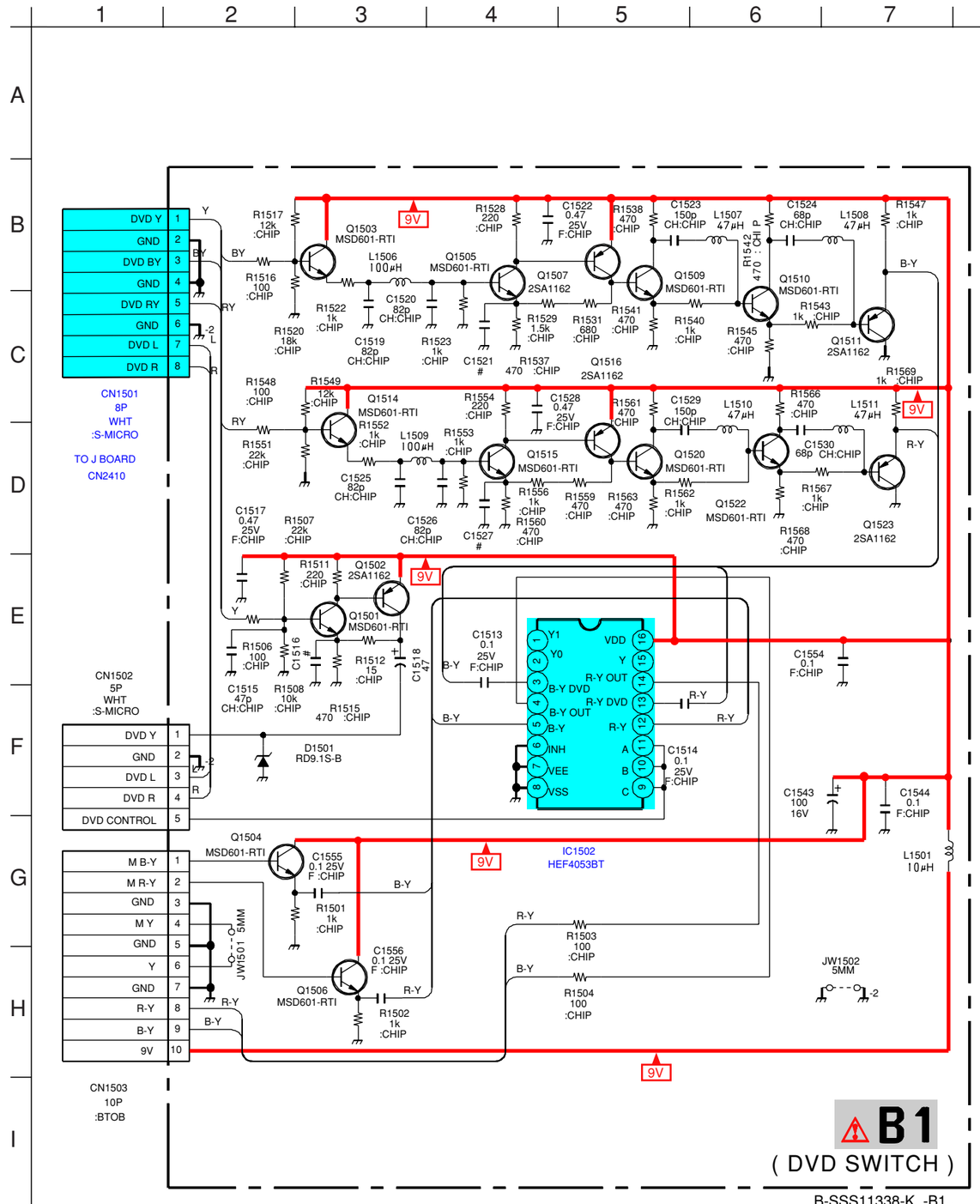
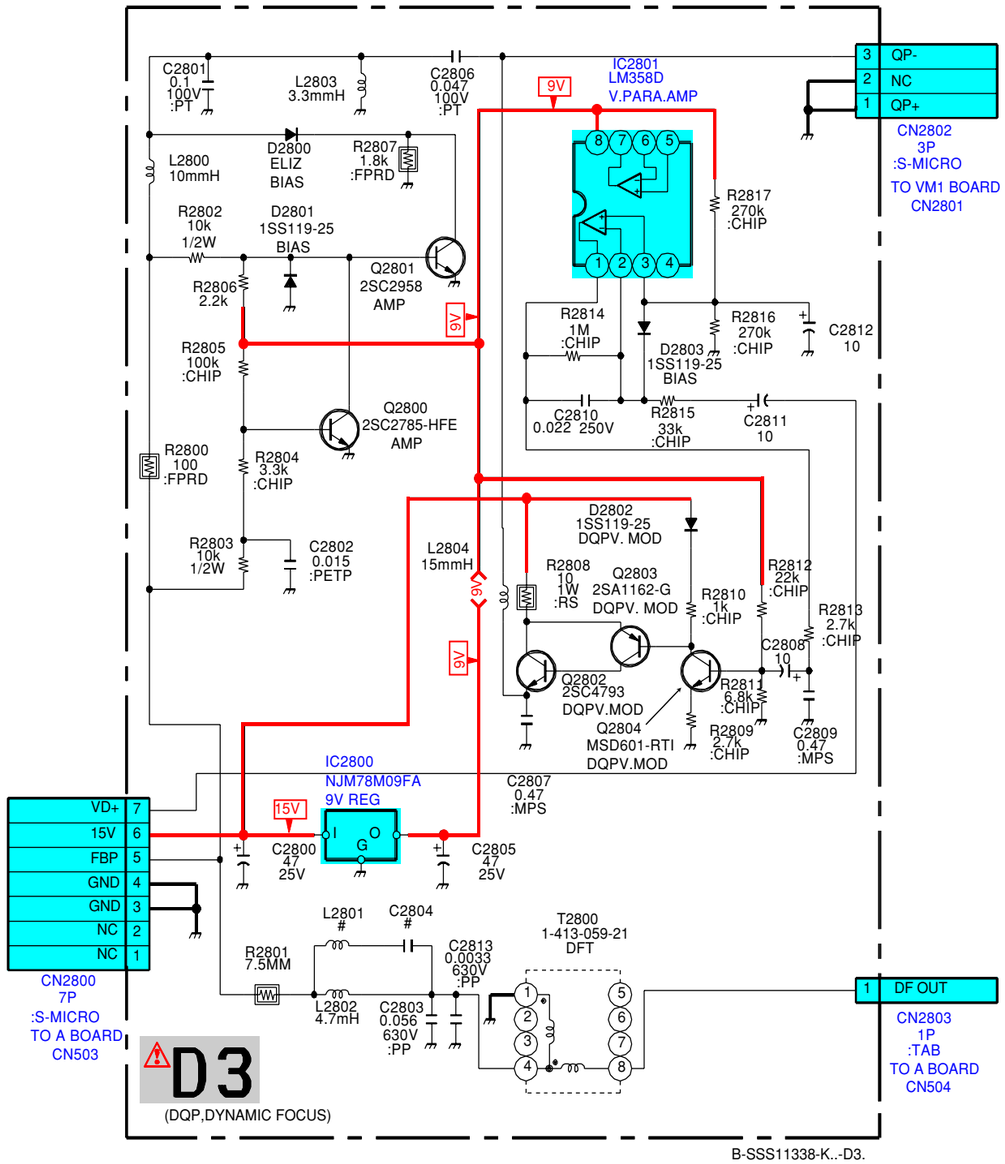
(4) B1 and D3 Boards Schematic Diagrams



B-SSS11338-K..-B1..

(DVD SWITCH)



B-SSS11338-K..-D3.

(DQP,DYNAMIC FOCUS)

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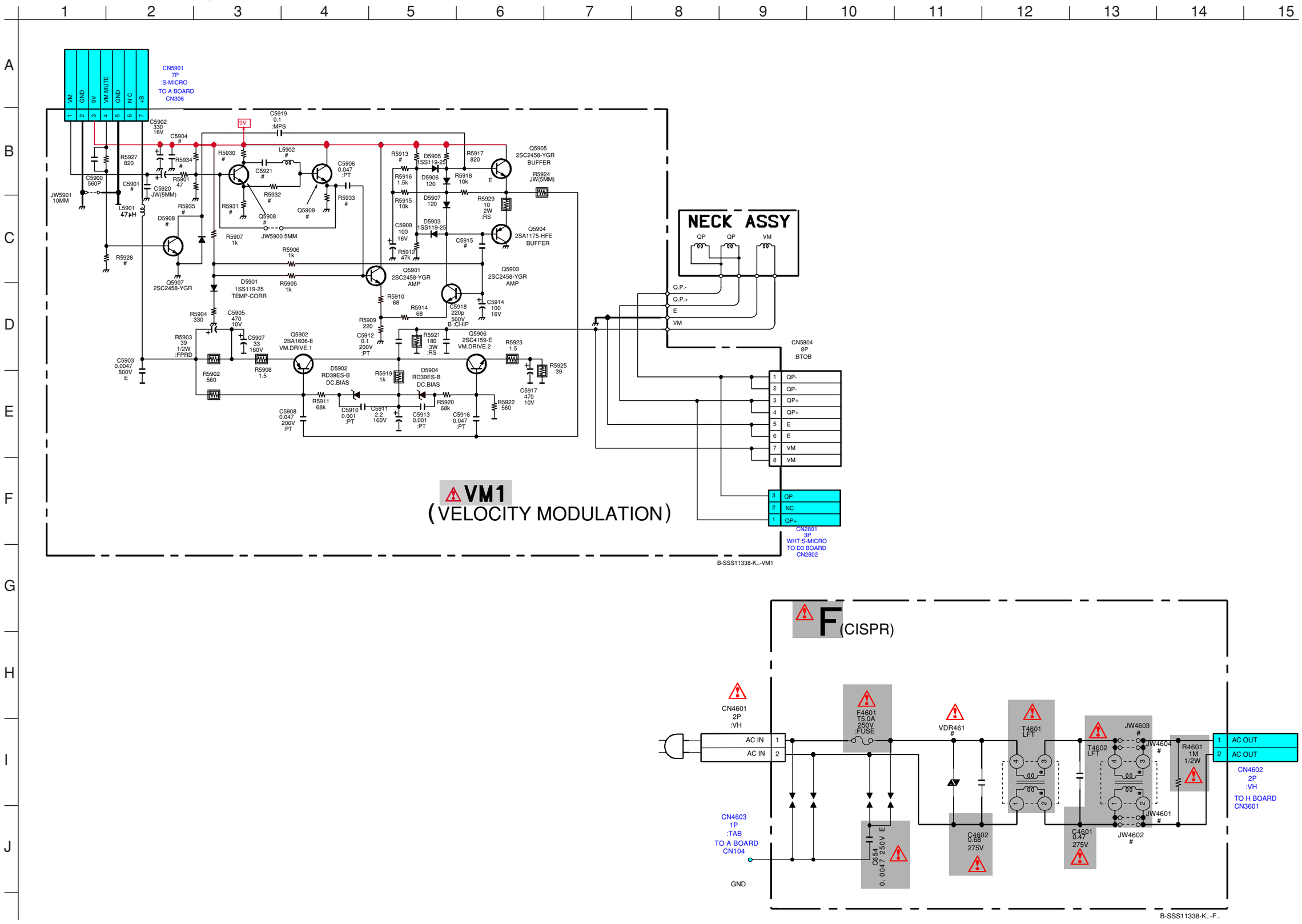
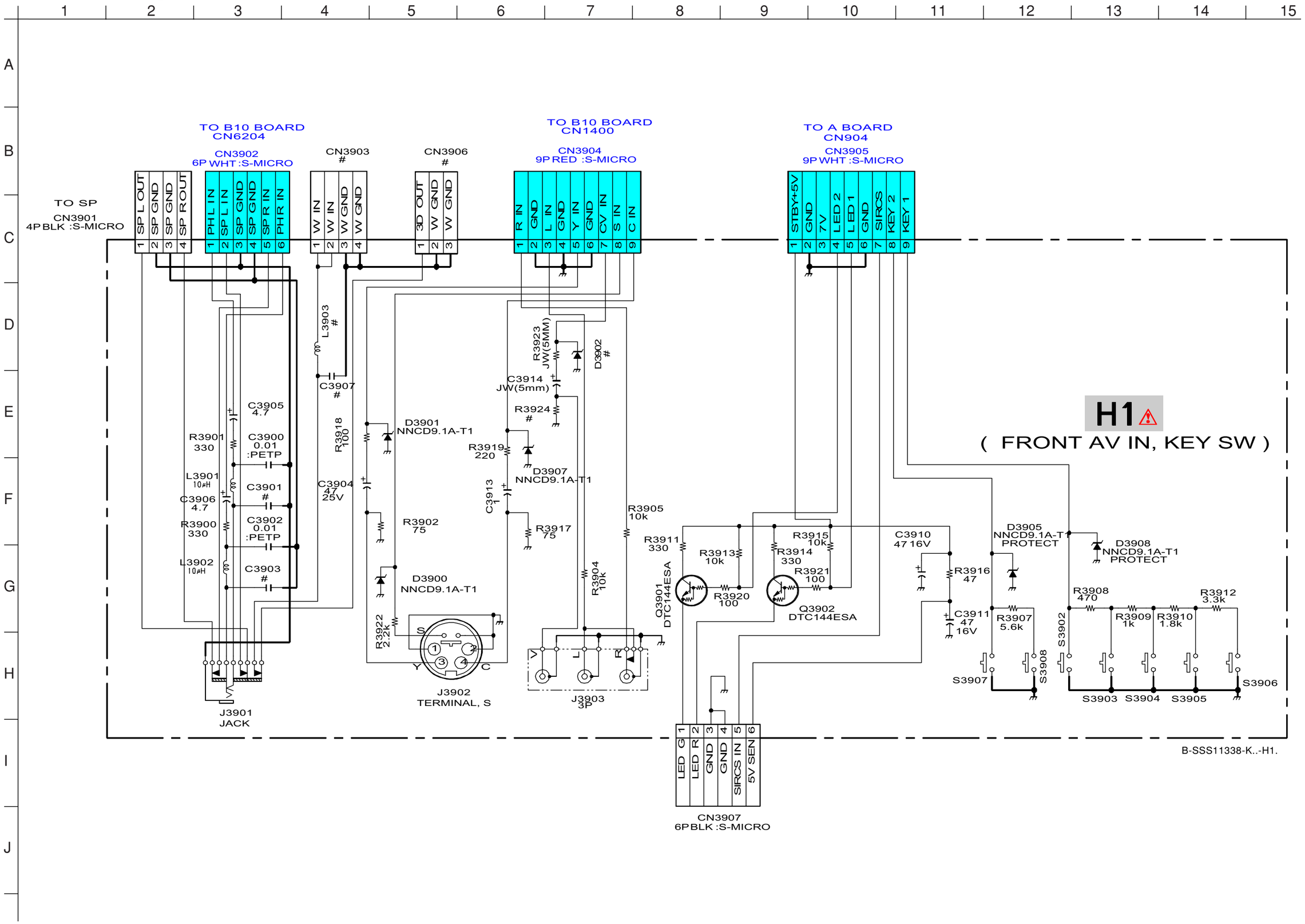
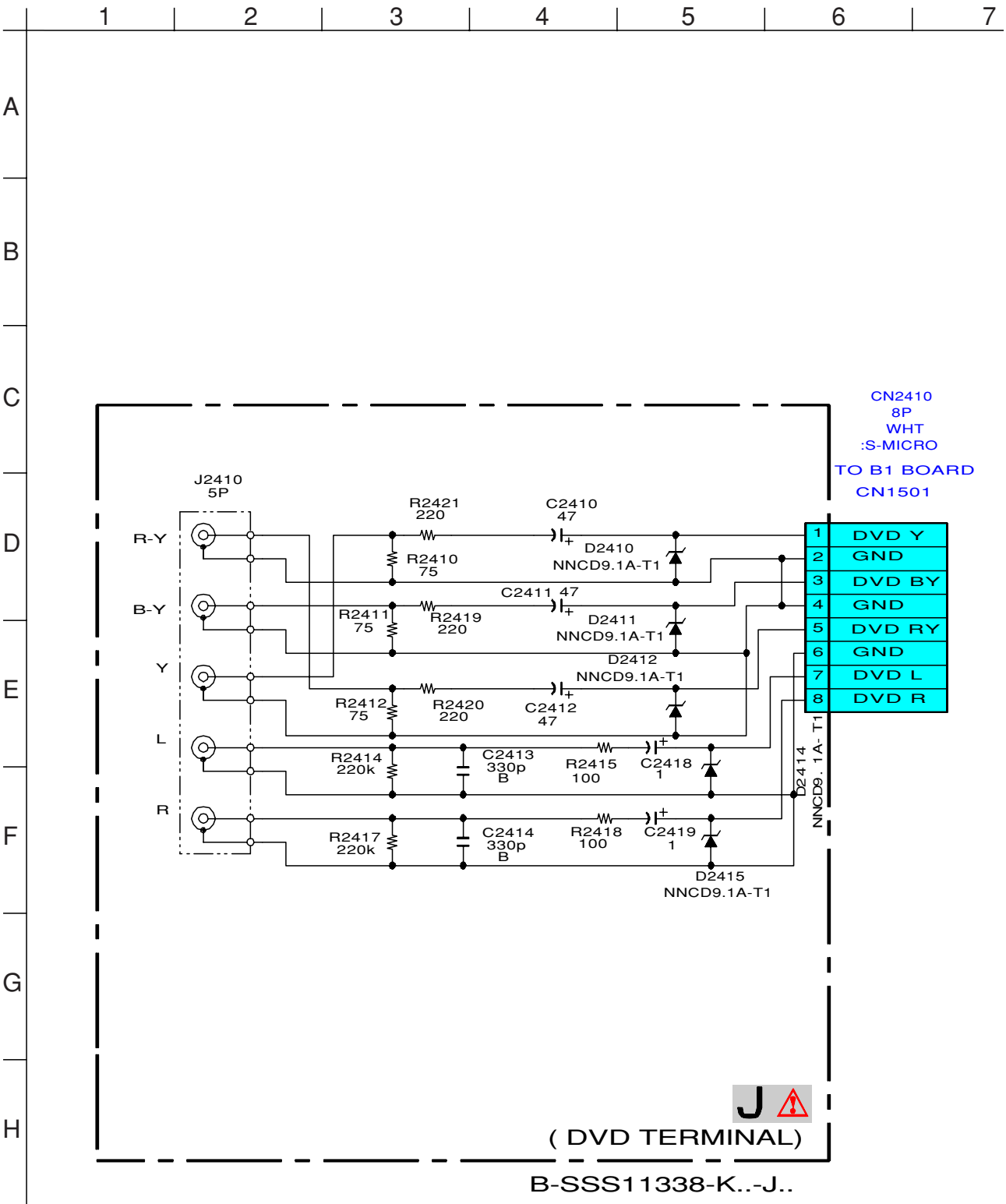
(5) F and VM1 Boards Schematic Diagrams



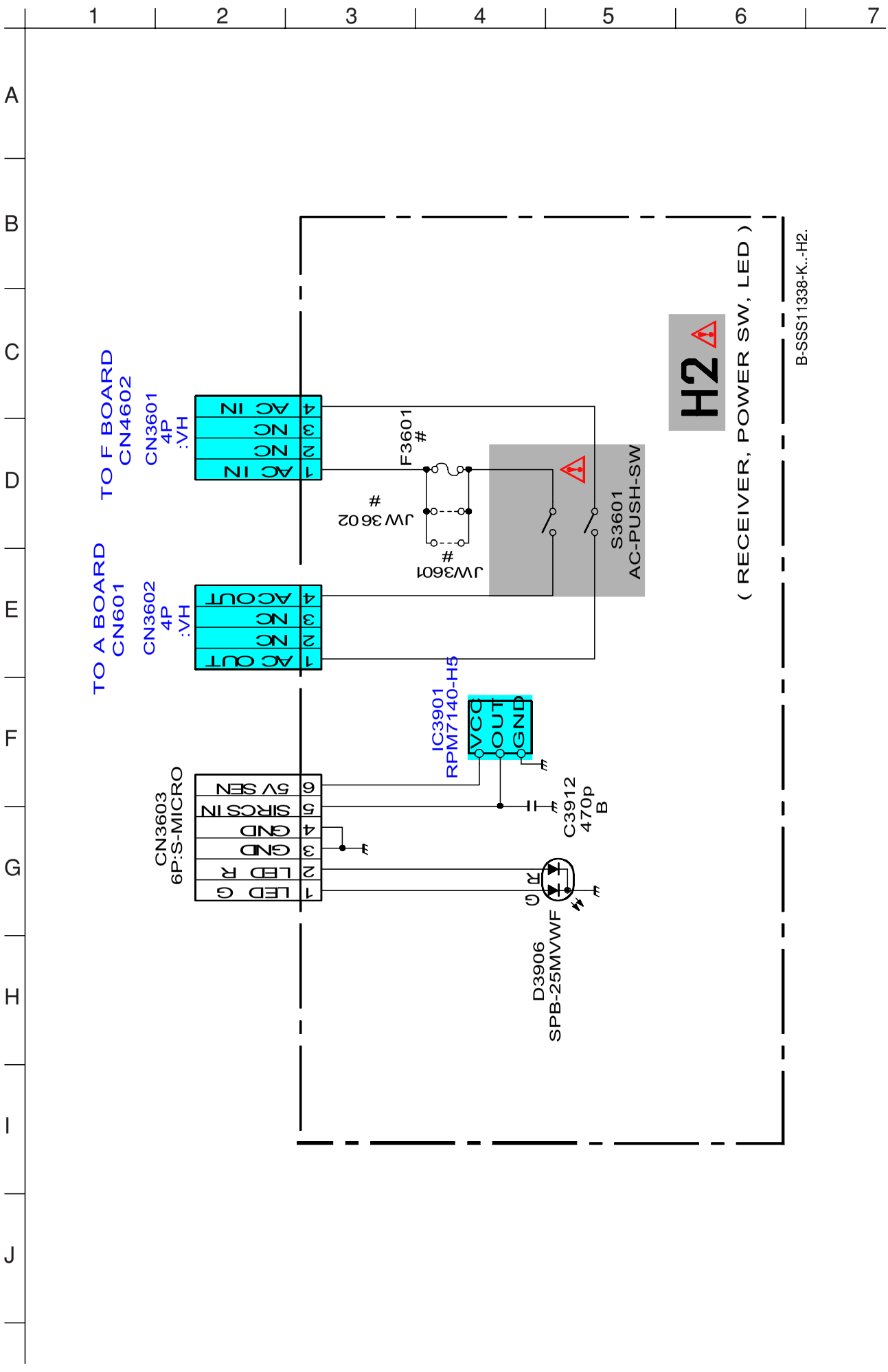
(6) H1 Board Schematic Diagram



(7) J Board Schematic Diagram

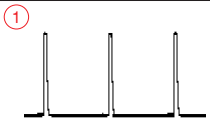
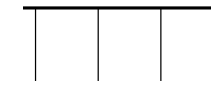
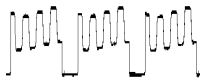
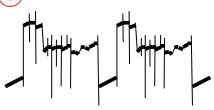
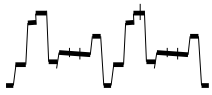


(8) H2 Board Schematic Diagram



5-4. VOLTAGE LIST AND WAVEFORM

A BOARD VOLTAGE LIST AND WAVEFORM

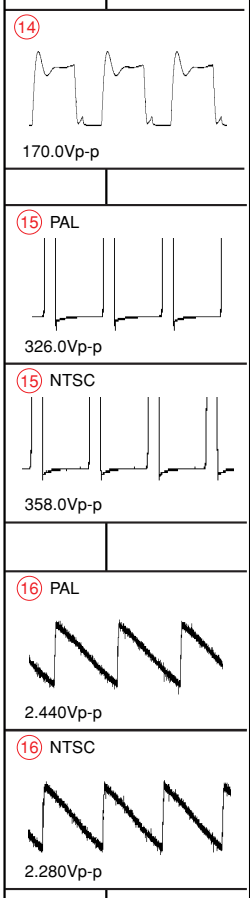
Ref	Pin No.	Voltage[v]
IC001	1	0
	2	0
	3	0.3
	4	0.3
	5	4.9
	6	4.9
	7	3.8
	8	4.7
	9	0
	①  5.120Vp-p	
	10	4.7
	②  4.880Vp-p	
	11	(0)[4.9]
	12	0
	13	(0)[2.1]
	14	2.1
	③ PAL 3.760Vp-p	
	③ NTSC 3.520Vp-p	
	15	4.9
	16	4.9
	17	0
	18	4.4
	19	(1.9)[2.5]
	20	1.6
	21	4.9
	22	0
	23	4.9
	24	0.3
	25	4.8
	26	4.9
	27	4.8
	28	4.9
	29	4.8
	30	0
	31	0
	32	0
	33	4.9
	34	0
	35	0
	36	(2.3)[2.5]
	37	2.5
	38	4.8
	39	4.9
	40	0
	41	0
	42	0.3
	43	0
	44	4.9
	45	4.9
	46	(4.3)[4.6]
	47	4.9
	48	4.4
	49	0
	50	(1.6)[2.2]
	51	0
	52	(4.7)[0]
IC002	1	0
	2	4.9
	3	4.9
	4	7.2
	5	4.9
	6	0
	7	0
IC003	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	4.9
IC100	1	4.8
	2	4.8
	3	0
IC301	1	3.3
	2	5.0
	3	(0)[1.2]
	4	5.0
	5	4.8
	6	4.3
	7	0
	8	3.8
	9	5.0
	10	3.7
	11	5.0
	12	0
	13	3.6
	14	2.4
	15	3.5
	16	3.4
	⑬ 1.3Vp-p	
	17	5.4
	18	7.6
	19	0.7
	20	3.5
	21	*
	22	3.8
	23	3.5
	24	1.9
	⑩ PAL 4.000Vp-p	
	⑩ NTSC 4.160Vp-p	
	25	1.9
	⑪ 3.760Vp-p	
	26	1.9
	⑫  4.080Vp-p	
	27	0
	28	4.4
	29	4.4
	30	4.4
	31	8.7
	32	4.1
	⑥  0.2Vp-p	
	33	4.1
	⑤  1.1Vp-p	
	34	3.5
	④ 880.0mVp-p	
	35	8.7
	36	4.4
	37	(4.6)[4.4]
	38	4.6
	39	4.6
	⑨ 920.0mVp-p	
	40	5.1
	⑧ 1.160Vp-p	
	41	5.1
	⑦ PAL 1.520Vp-p	
	⑦ NTSC 1.400Vp-p	

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
	42	0
	43	5.0
	44	4.7
	45	6.6
	46	5.0
	47	8.8
	48	0
	49	4.3
	50	0
	51	(0)[2.7]
	52	(3.1)[0]
IC302	1	(0.3)[0.6]
	2	0
	3	0.5
	4	0
	5	0.1
	6	0
	7	2.9
	8	0
	9	0
	10	(0)[2.2]
	11	2.1
	12	(0)[2.2]
	13	0
	14	0.2
	15	0
	16	0
IC502	1	0.9
	2	3.5
	3	(0)[1.8]
	4	0
	5	2.9
	6	2.4
	7	6.9
	8	8.9
IC503	1	1.5
	2	13.1
	3	13.3
	4	14.7
	5	0.5
	6	13.2
	7	1.5
IC601	1	1.9
	2	0
	3	187.7
	4	16.9
	5	0
IC602	1	76.3
	2	68.5
	3	(*)[0]
IC603	I	12.0
	G	0
	O	8.9
IC604	I	7.8
	G	0
	O	0
PH600	1	72.5
	2	71.6
	3	3.3
	4	16.9
Q001	B	4.9
	C	0
	E	(0.8)[1.1]
Q002	B	0
	C	4.9
	E	0
Q101	B	2.5
	C	8.8
	E	1.9

Ref	Pin No.	Voltage[v]
Q301	B	12.0
	C	0
	E	11.8
Q302	B	0.5
	C	8.7
	E	0
Q303	B	8.7
	C	0
	E	8.8
Q304	B	3.5
	C	0
	E	4.2
Q305	B	8.7
	C	0
	E	8.8
Q306	B	0.5
	C	8.6
	E	0
Q308	B	3.6
	C	0.3
	E	0.8
Q309	B	2.9
	C	0
	E	0
Q310	B	0.4
	C	2.2
	E	0
Q311	B	0
	C	8.9
	E	0
Q312	B	5.1
	C	0
	E	6.6
Q313	B	0
	C	11.8
	E	0
Q314	B	0.17
	C	0
	E	2.2
Q315	B	0
	C	3.5
	E	0
Q316	B	4.1
	C	0
	E	4.7
Q317	B	4.1
	C	0
	E	4.7
Q501	B	3.4
	C	0
	E	4.0
Q502	B	4.2
	C	2.3
	E	4.0
Q503	B	0
	C	3.6
	E	0
Q505	S	0
	G	*
	D	*
Q506	B	0.5
	C	*
	E	0
Q507	B	12.5
	C	0.3
	E	13.1
Q509	B	0.6
	C	0
	E	0

Ref	Pin No.	Voltage[v]
Q511	B	0.8
	C	0
	E	0
Q600	B	0
	C	12.2
	E	0
Q601	B	0.7
	C	0.3
	E	0.3
Q602	B	0.1
	C	16.8
	E	0.1
Q603	B	16.8
	C	3.3
	E	16.9
Q604	B	133.8
	C	0
	E	134.0
Q605	S	0.6
	G	0.2
	D	(266.3)[257]
Q606	B	0.1
	C	0.2
	E	0.6
Q607	B	1.4
	C	(0.8)[1.1]
	E	1.1
Q608	B	0
	C	0.8
	E	0



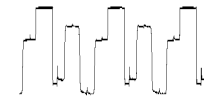
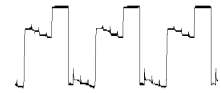
B10 BOARD VOLTAGE LIST

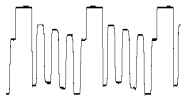
Ref	Pin No.	Voltage[v]
IC1401	1	3.8
	2	3.9
	3	3.8
	4	3.9
	5	3.8
	6	8.2
	7	3.8
	8	3.9
	9	3.8
	10	3.9
	11	3.8
	12	8.2
	13	3.9
	14	3.9
	15	3.8
	16	3.9
	17	3.8
	18	8.1
	19	4.3
	20	4.4
	21	0
	22	3.9
	23	3.8
	24	3.9
	25	3.8
	26	3.9
	27	3.8
	28	3.9
	29	3.8
	30	3.8
	31	3.9
	32	3.9
	33	3.8
	34	0
	35	3.8
	36	0
	37	3.8
	38	3.9
	39	3.9
	40	3.8
	41	3.8
	42	3.9
	43	3.7
	44	8.8
	45	3.8
	46	3.9
	47	3.9
	48	3.8
IC1402	1	4.9
	2	2.5
	3	2.5
	4	0
	5	8.8
	6	5.0
	7	2.5
	8	2.5
IC1404	I	12.1
	G	0
	O	8.8
IC3200	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.9
IC3202	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.9

Ref	Pin No.	Voltage[v]
IC3204	1	4.5
	2	4.5
	3	4.4
	4	0
	5	4.4
	6	4.5
	7	4.5
	8	8.8
IC3205	1	8.8
	2	0.1
	3	0.4
	4	0.4
	5	0.4
	6	0.4
	7	0.3
	8	0
	9	0.1
	10	2.4
	11	0
	12	0
	13	8.7
	14	4.4
	15	4.4
	16	8.8
IC3301	1	2.7
	2	2.6
	3	3.0
	4	3.0
	5	0.4
	6	0
	7	0
	8	0
	9	4.5
	10	4.5
	11	4.5
	12	0
	13	0.4
	14	8.8
IC3302	1	4.4
	2	4.5
	3	4.5
	4	4.5
	5	4.5
	6	4.5
	7	4.5
	8	4.5
	9	4.5
	10	4.4
	11	4.4
	12	4.5
	13	4.5
	14	1.5
	15	1.7
	16	2.7
	17	2.7
	18	4.4
	19	*
	20	0
	21	8.9
	22	4.5
	23	2.5
	24	2.1
	25	2.1
	26	2.1
	27	2.0
	28	4.5
	29	4.4
	30	4.3
	31	4.4
	32	4.5
	33	4.4
	34	4.5
	35	4.5
	36	4.4
	37	4.4
	38	4.5

Ref	Pin No.	Voltage[v]
	39	4.4
	40	4.4
IC6200	1	1.5
	2	0
	3	0
	4	0
	5	1.6
	6	8.7
	7	12.3
	8	5.0
	9	25.8
	10	0
	11	4.2
	12	12.0
Q1316	B	8.8
	C	4.6
	E	8.2
Q1317	B	3.9
	C	8.7
	E	4.6
Q1318	B	3.5
	C	6.1
	E	4.2
Q1323	B	2.0
	C	8.2
	E	2.7
Q1324	B	5.4
	C	8.8
	E	6.1
Q1365	B	3.5
	C	5.3
	E	4.2
Q1372	B	2.8
	C	8.8
	E	3.5
Q1401	B	0
	C	8.8
	E	0
Q1402	B	4.5
	C	0
	E	3.8
Q1403	B	3.1
	C	8.8
	E	3.7
Q1404	B	3.2
	C	8.8
	E	3.8
Q1408	B	5.2
	C	8.8
	E	5.8
Q1409	B	1.8
	C	5.8
	E	2.5
Q3201	S	4.4
	G	4.2
	D	4.3
Q3202	B	3.6
	C	8.6
	E	4.1
Q3203	B	3.6
	C	8.6
	E	4.1
Q3204	S	3.6
	G	4.0
	D	4.4
Q6201	B	0
	C	4.2
	E	0
Q6206	B	0
	C	8.8
	E	0
Q6208	B	0
	C	8.6
	E	0

C6 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC1800	1	6.4
	2	6.4
	3	6.4
	4	6.4
	5	0
	6	6.4
	7	6.4
	8	6.3
	9	6.3
	10	12.7
J701	KR	(135)[132]
	①  164.0Vp-p	
	KG	(135)[*]
	②  160.0Vp-p	

Ref	Pin No.	Voltage[v]
	KB	(136)[*]
	③  170.0Vp-p	
	H2	(*)[0.2]
	④ 24.80Vp-p	
	G2	(266)[263]
Q701	B	*
	C	204
	E	*
Q702	B	136
	C	204
	E	*
Q703	B	(*)[131]
	C	204
	E	*
Q704	B	8.9
	C	(*)[129]
	E	8.3

Ref	Pin No.	Voltage[v]
Q705	B	8.9
	C	*
	E	8.3
Q706	B	8.9
	C	*
	E	8.4
Q707	B	*
	C	5.6
	E	*
Q708	B	*
	C	(5.7)[6.1]
	E	*
Q709	B	*
	C	(5.1)[5.6]
	E	(*)[132]
Q710	B	(1.9)[2.0
	C	8.3
	E	1.5
Q711	B	1.9
	C	8.3
	E	1.5
Q712	B	1.9
	C	8.3
	E	1.5
Q714	B	0.6
	C	0.2
	E	0.01

VM1 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]
Q5901	B	2.6
	C	8.8
	E	(0)[2.0]
Q5902	B	135
	C	135
	E	(70)[64]
Q5903	B	2.6
	C	4.5
	E	1.9

Ref	Pin No.	Voltage[v]
Q5904	B	4.5
	C	0
	E	5.0
Q5905	B	5.5
	C	8.8
	E	5.0
Q5906	B	(0.27)[0.22]
	C	(0)[64.7]
	E	0

Ref	Pin No.	Voltage[v]
Q5907	B	0
	C	0
	E	0
Q5908	B	3.3
	C	0
	E	0
Q5909	B	0
	C	8.8
	E	3.3

D3 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC2800	I	13.2	Q2801	B	(*)[0.3
	G	0		C	(3.1)[*]
	O	9.0		E	0
IC2801	1	4.4	Q2802	B	2.4
	2	4.5		C	12.7
	3	4.4		E	1.7
	4	0	Q2803	B	12.1
	5	(1.2)[1.4]		C	2.3
	6	1.2		E	12.7
	7	7.9	Q2804	B	2.0
	8	8.9		C	12.1
Q2800	B	(0.41)[*]		E	1.5
	C	*			
	E	0			

H1 AND H2 BOARDS VOLTAGE LIST

Ref	Pin No.	Voltage[v]
IC3901	1	(4.9)[4.8]
	2	(0)[4.9]
	3	(4.8)[0]
Q3901	B	0.1
	C	4.9
	E	0.2
Q3902	B	(4.7)[0]
	C	(2.4)[4.9]
	E	(2.0)[0.1]

B1 BOARD VOLTAGE LIST

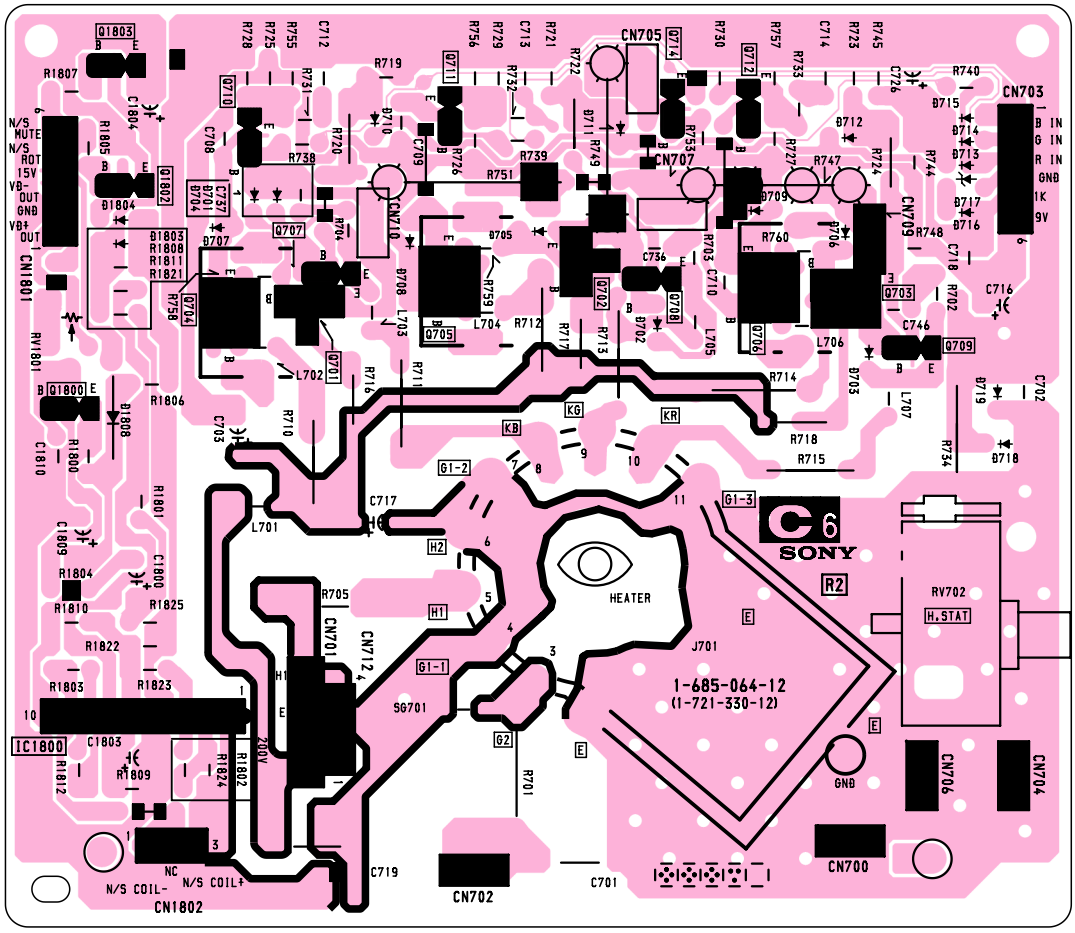
Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC1502	1	3.1	Q1502	B	2.3	Q1514	B	0.6
	2	3.0		C	2.3		C	0.6
	3	3.2		E	2.5		E	0.6
	4	4.6	Q1503	B	0.6	Q1515	B	0.6
	5	4.6		C	0.6		C	0.6
	6	0		E	0.6		E	0.6
	7	0	Q1505	B	0.6	Q1516	B	0.5
	8	0		C	0.8		C	0.5
	9	8.1		E	0		E	0.5
	10	7.9	Q1507	B	0.7	Q1520	B	0.5
	11	7.9		C	0.8		C	0.4
	12	7.6		E	0.7		E	0
	13	7.6	Q1509	B	0.8	Q1522	B	0.4
	14	7.3		C	0.8		C	0
	15	7.6		E	0		E	0.5
	16	7.6	Q1510	B	0.7	Q1523	B	0.4
Q1501	B	2.5		C	0.7		C	0
	C	2.4		E	0		E	0.5
	E	2.4	Q1511	B	0.7			
				C	0.7			
				E	0			

5-5. PRINTED WIRING BOARDS AND PARTS LOCATION

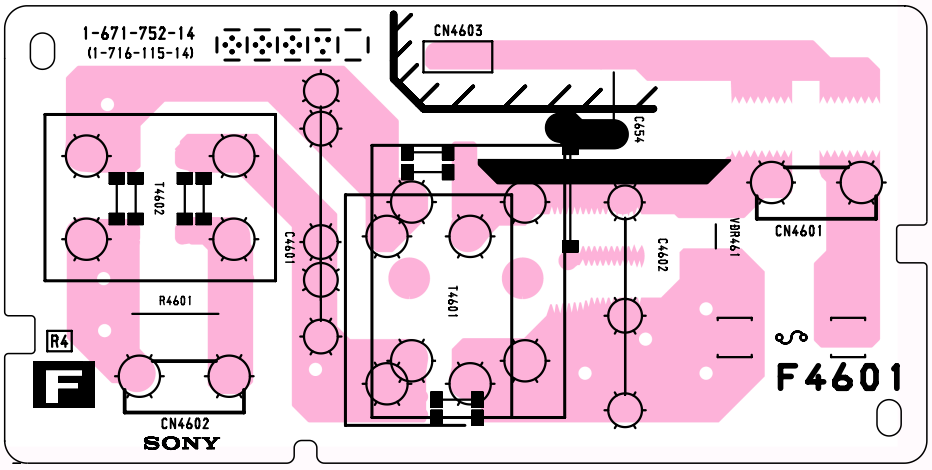
PRINTED WIRING BOARDS

C6 [VIDEO AMP, ROTATION CIRCUIT] **F** [CISPR]

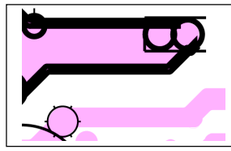
– C6 Board –



– F Board –



KV-AR29K90
RM-996

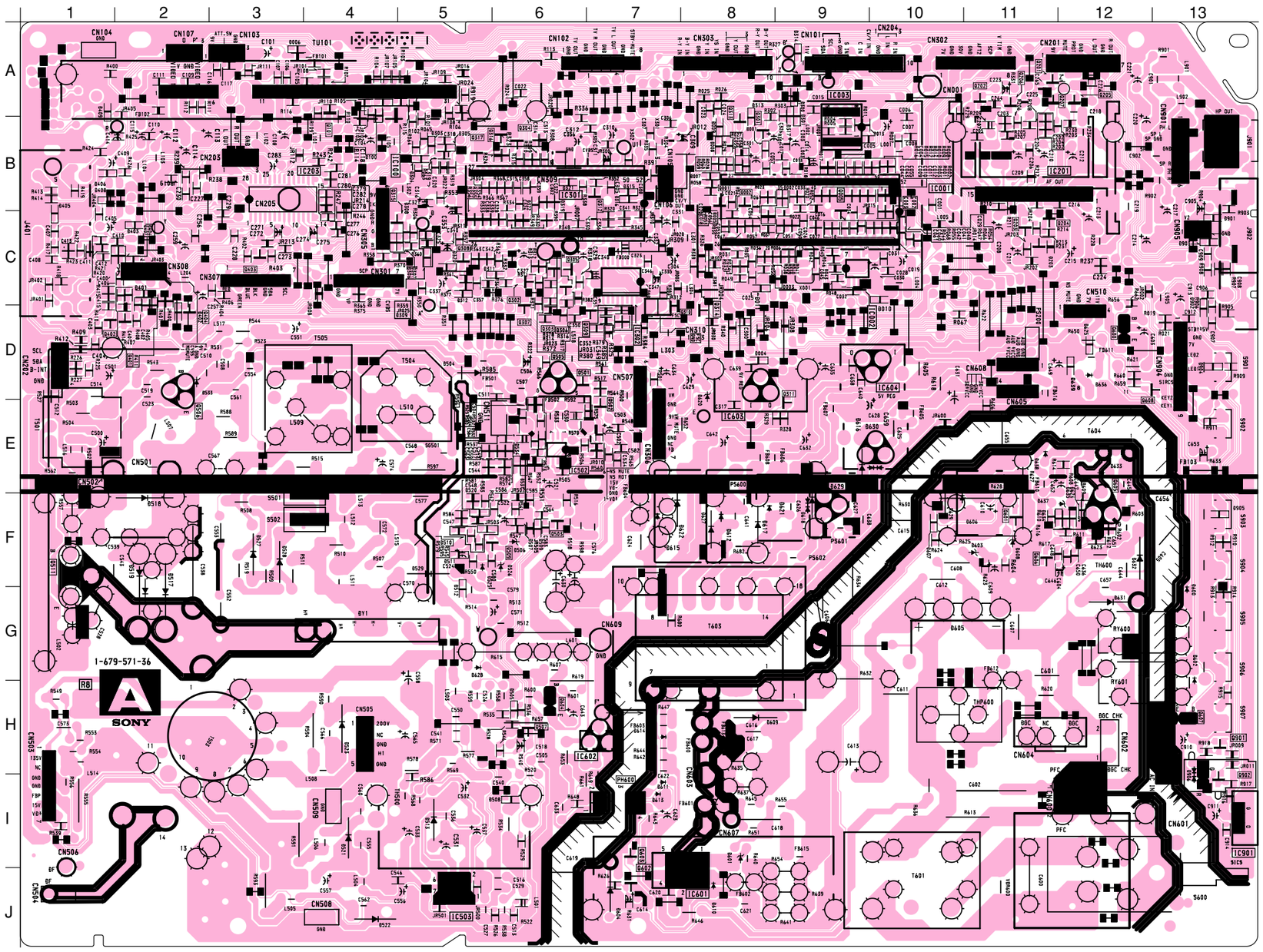


NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

PRINTED WIRING BOARDS

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]

– A Board –



A BOARD

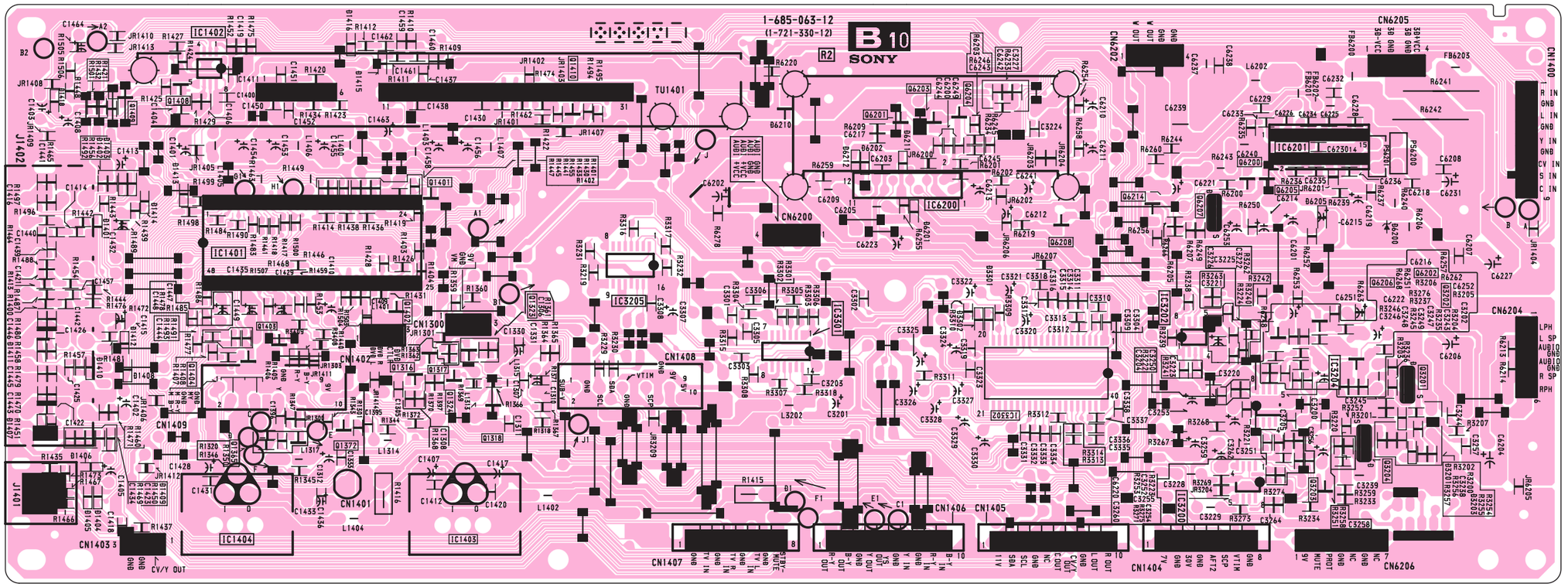
IC		Q601	F-11	D512	G-5
IC001	B-10	Q602	I-7	D513	I-5
IC002	D-10	Q603	I-7	D517	F-2
IC003	A-9	Q604	H-6	D518	F-2
IC100	B-4	Q605	E-12	D519	F-2
IC201	B-12	Q606	F-11	D520	E-5
IC203	B-4	Q607	H-13	D521	I-4
IC301	B-6	Q608	D-12	D522	J-4
IC302	D-7	Q901	H-13	D523	H-4
IC502	E-6	Q902	H-13	D525	F-5
IC503	J-5	**DIODE**		D526	F-6
IC601	J-8	D001	B-8	D527	F-3
IC602	H-7	D002	B-9	D528	F-3
IC603	E-8	D003	C-9	D529	F-5
IC604	D-10	D004	D-8	D531	E-6
IC901	I-13	D005	C-8	D532	E-5
TRANSISTOR		D006	A-3	D533	D-3
Q001	B-8	D007	B-8	D534	E-6
Q002	B-8	D008	B-8	D600	F-13
Q003	A-9	D009	B-8	D601	I-8
Q005	B-9	D010	D-10	D602	G-13
Q101	B-4	D011	C-8	D603	F-11
Q201	A-11	D100	B-4	D604	J-7
Q202	A-11	D203	C-11	D605	G-10
Q203	C-11	D300	A-9	D606	F-11
Q204	C-12	D301	B-9	D607	F-10
Q205	A-12	D303	B-5	D608	F-11
Q206	A-11	D304	B-5	D609	H-8
Q207	A-12	D305	B-5	D610	J-8
Q301	B-8	D306	C-5	D611	I-7
Q302	C-6	D307	C-5	D612	F-8
Q303	D-6	D308	B-5	D613	I-7
Q304	B-6	D309	D-5	D614	H-7
Q305	C-6	D311	C-5	D615	F-7
Q306	D-6	D312	C-5	D616	E-9
Q307	D-6	D313	A-8	D617	F-8
Q308	C-5	D314	A-9	D618	F-9
Q309	D-6	D315	B-7	D620	D-8
Q310	D-8	D316	B-7	D621	F-9
Q311	D-9	D317	B-9	D622	F-7
Q312	B-7	D319	B-6	D623	F-12
Q313	A-8	D320	C-5	D624	E-12
Q314	D-8	D321	B-6	D625	D-12
Q315	B-4	D322	B-6	D627	F-8
Q316	B-5	D401	C-2	D628	G-5
Q317	B-5	D402	D-2	D629	E-9
Q401	D-2	D403	C-2	D630	E-10
Q402	D-1	D404	C-2	D631	G-12
Q403	C-3	D405	B-1	D632	F-12
Q404	D-2	D406	B-1	D633	E-12
Q501	D-6	D407	C-2	D634	F-11
Q502	E-7	D408	B-1	D635	E-12
Q503	F-6	D409	A-1	D636	D-12
Q505	D-6	D504	D-5	D637	F-11
Q506	E-2	D505	H-6	D638	E-11
Q507	H-6	D506	F-6	D639	D-12
Q509	F-6	D507	F-6	D901	C-13
Q511	F-1	D508	I-6	D902	C-13
Q600	D-12	D509	F-6	D903	C-13
		D510	F-5	D904	D-13
		D511	F-5	D905	F-13
				D906	H-13

KV-AR29K90
RM-996

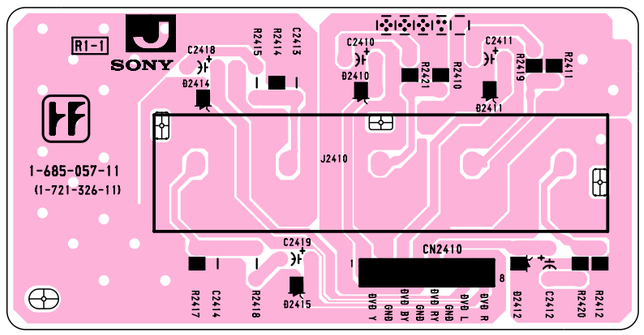
PRINTED WIRING BOARDS

B10 [AUDIO PROCESSOR, AUDIO AMP, SUB TUNER, AV IN/OUT, VM DRIVER] **J** [DVD TERMINAL] **B1** [DVD, SWITCH]

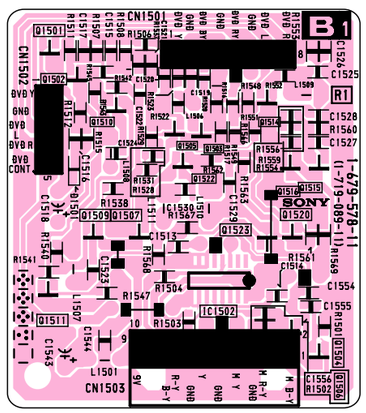
– B10 Board –



– J Board –



– B1 Board –



KV-AR29K90
RM-996

PRINTED WIRING BOARDS

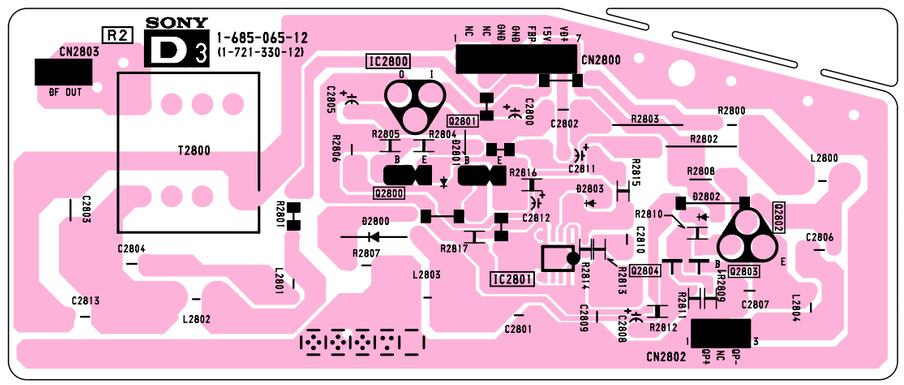
D3 [DYNAMIC FOCUS, DQP]

VM1 [VELOCITY MODULATION]

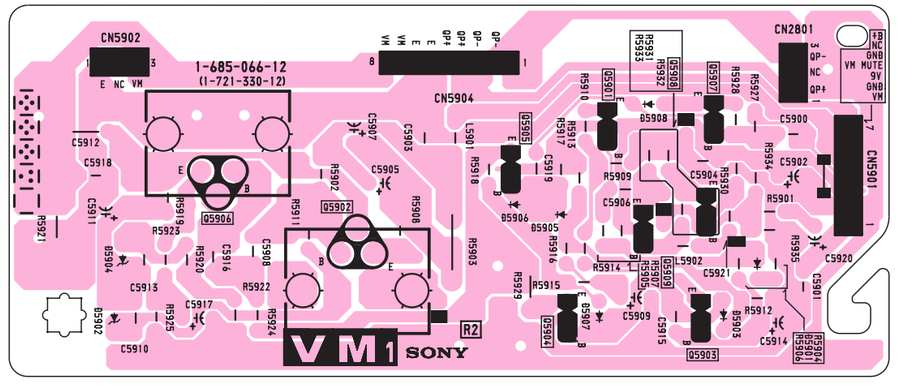
H1 [FRONT AV IN, KEY SW]

H2 [RECEIVER, POWER SW, LED]

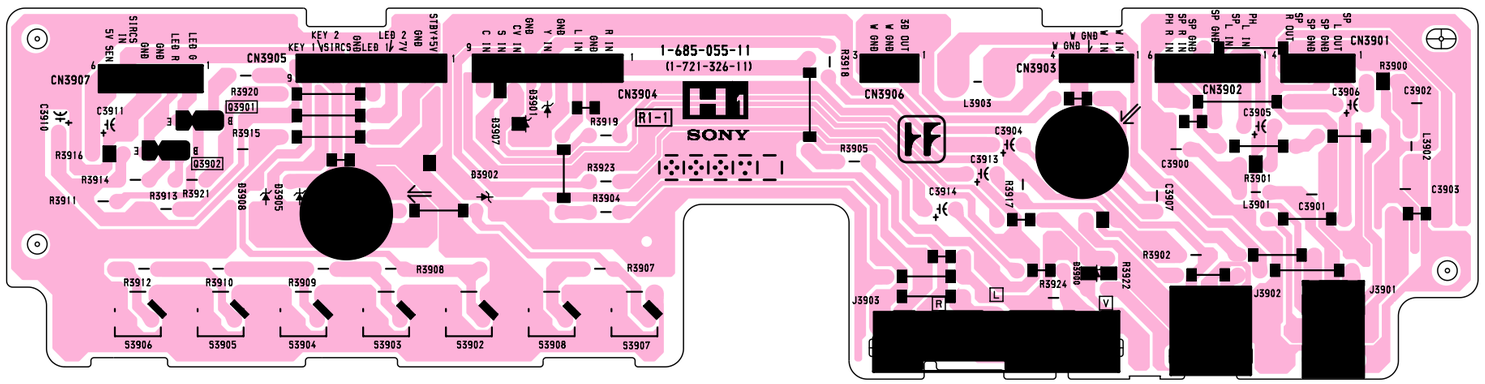
– D3 Board –



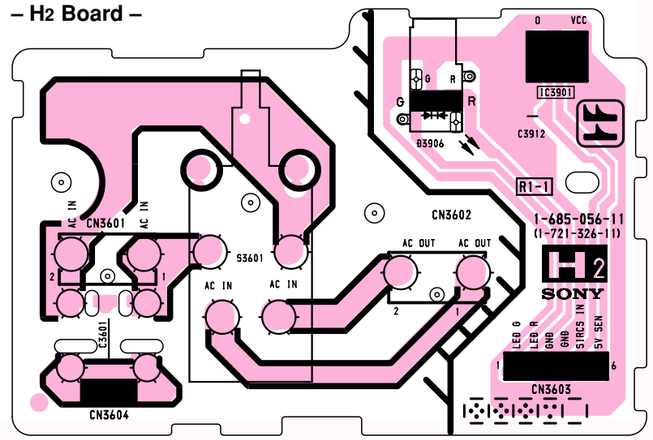
– VM1 Board –



– H1 Board –

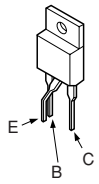
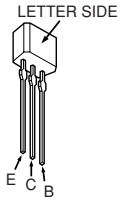
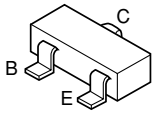
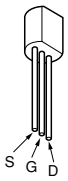
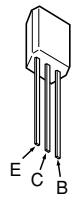
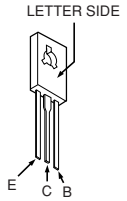


– H2 Board –



5-6. SEMICONDUCTORS

TRANSISTOR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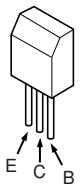
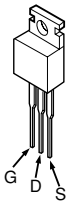
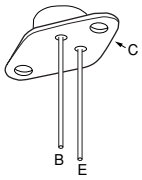
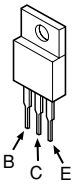
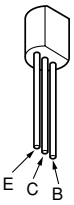
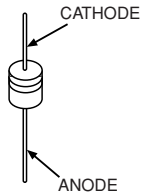
DIODE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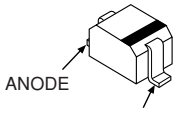
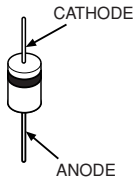
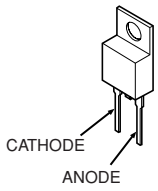
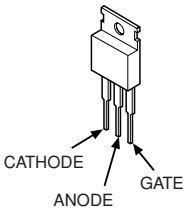
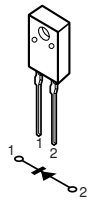
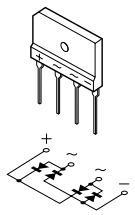
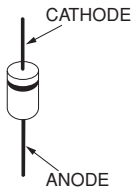
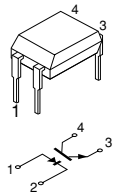
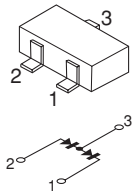
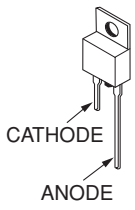
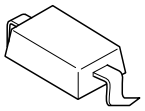
					
DTZ10B MA111-TX RD5.1SB-T2 RD7.5SB1-T1 RD9.1S-B UDZS-TE17-9.1B 1SS355TE-17	AK04V0 AU-01Z-V1 D2L20U EL1Z ERA22-08 FR104-A5 GP08D	NNCD9.1A-T1 RD33EB3T RGP02-17EL-6433	D5S6M	5P-6M	D5L60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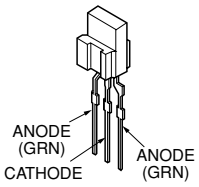
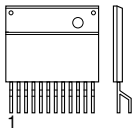
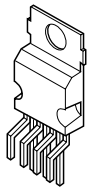
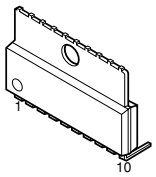
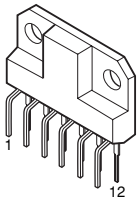
LED IC

	MARKING SIDE VIEW  Zig-zag In -line Package Pin 6～99				
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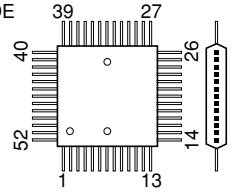
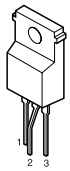
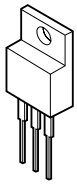
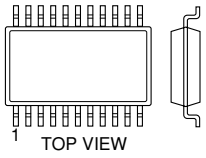
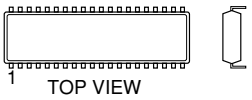
MARKING SIDE VIEW 				SOP  TOP VIEW Single In -line Package Pin 8～98
RU-1P		SE-135N	NJM78M09FA TA7805S	CXA1315M HEF4053BT LM358D MM1319AFBE NJM2903M UPC4558G2

DIP



TOP VIEW

Dual In-line Package
Pin 6～98

CXA1855S CXA2159S CXP750097-604S NJU4066BM M24C08-BN6	

SECTION 6
EXPLODED VIEWS

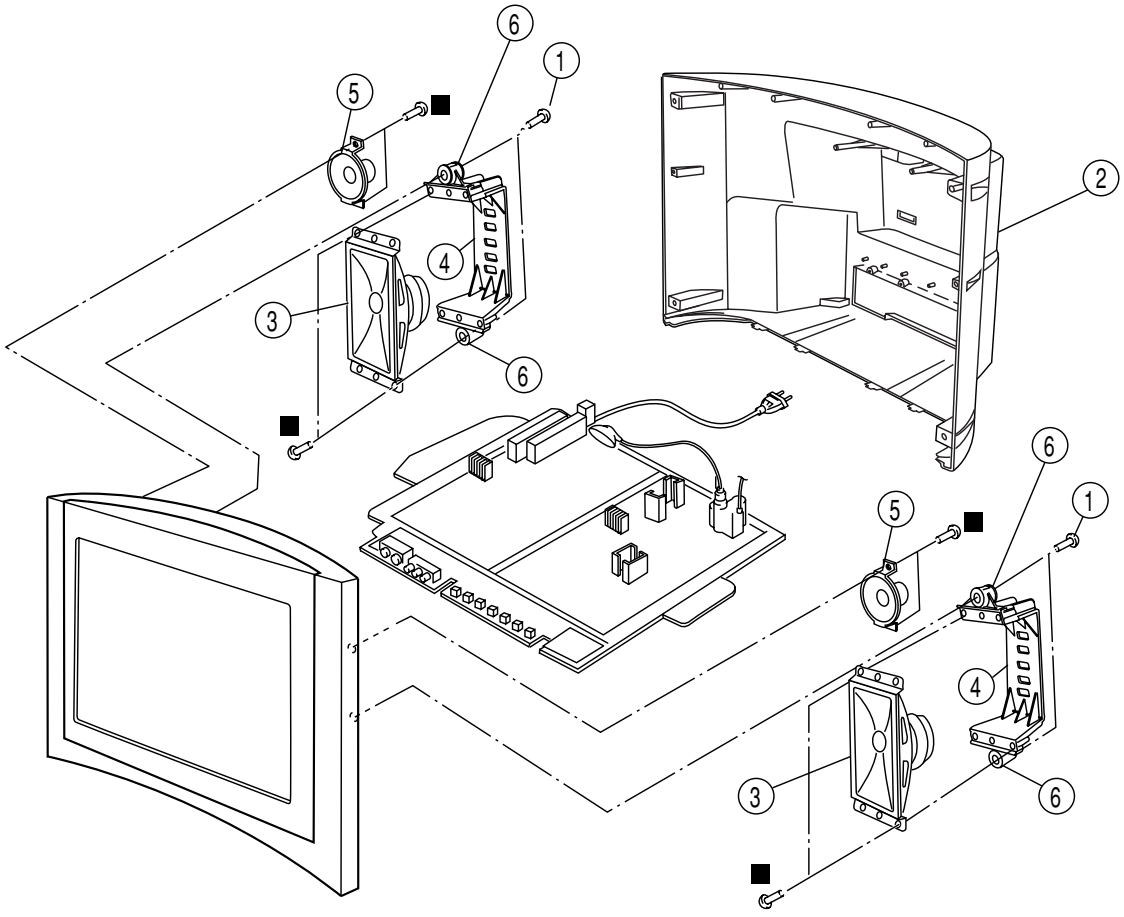
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. SPEAKER BRACKET

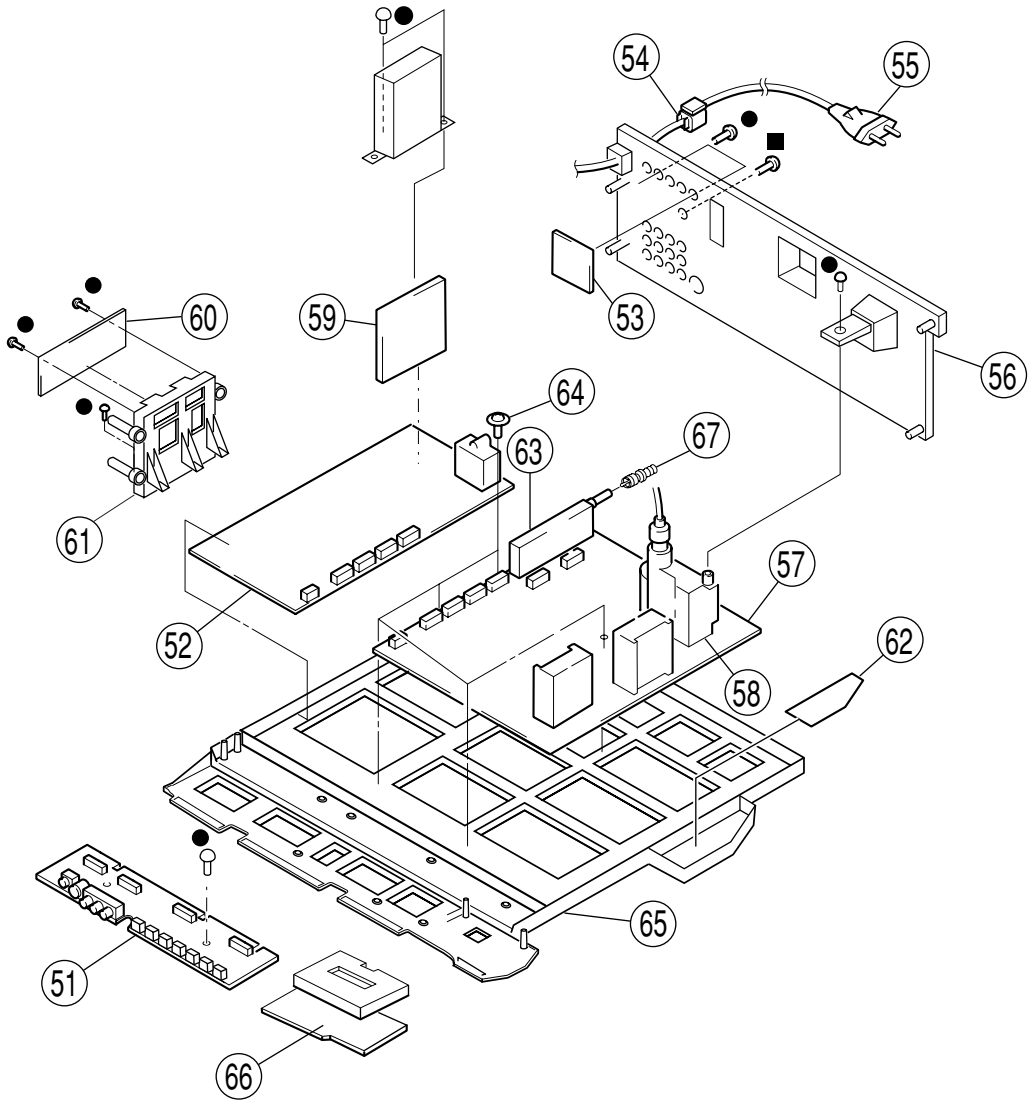
■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-302-404-03	SCREW (WASHER HEAD)(+P4 x 16)	
2	4-090-010-01	COVER REAR	
3	1-825-099-11	SPEAKER (13 x 5.5 CM)	
4	* 4-086-708-11	BRACKET,SPEAKER	
5	1-825-163-11	SPEAKER (5 CM)	
6	4-374-745-21	CUSHION A	

6-2. CHASSIS

● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16

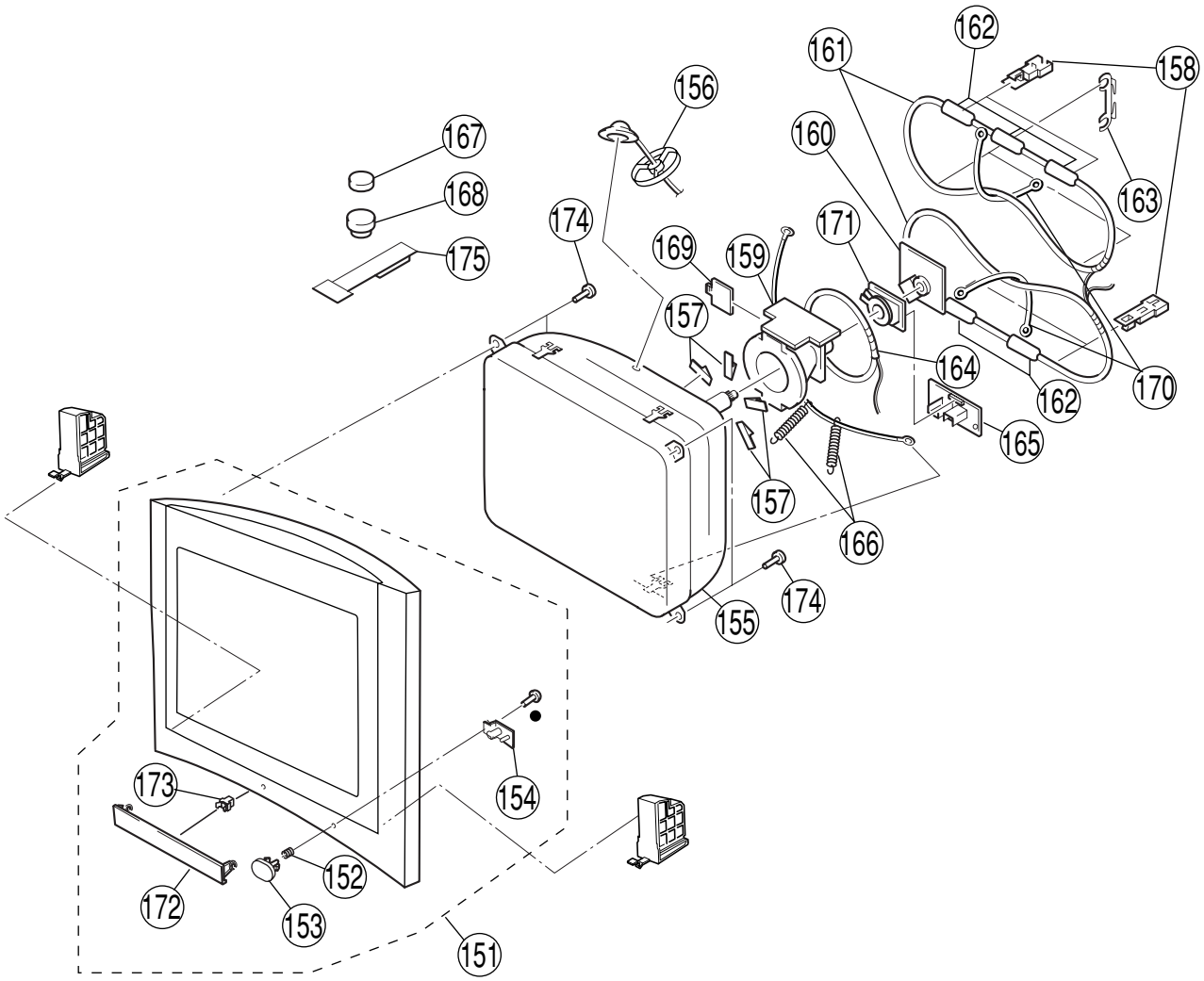


REF. NO.		PART NO.	DESCRIPTION	REMARK
51	*	A-1400-972-A	H1 BOARD MOUNTED	
52	*	A-1300-895-A	B10 BOARD COMPLETE	
53	*	A-1400-975-A	J BOARD, MOUNTED	
54	⚠	4-022-115-00	HOLDER, AC CORD	
55	⚠	1-775-468-31	CORD, POWER (WITH CONNECTOR)	
56	*	4-081-023-24	BRACKET, TERMINAL	
57	*	A-1302-046-A	A BOARD COMPLETE	
58	⚠	1-453-284-11	TRANSFORMER ASSY, FLYBACK (NX-4009//M314)	
59	*	A-1131-652-A	B1 BOARD MOUNTED	
60	*	A-1241-456-A	F BOARD MOUNTED	

REF. NO.		PART NO.	DESCRIPTION	REMARK
61	*	4-066-682-01	BRACKET F PWB	
62	*	A-1401-875-A	D3 BOARD MOUNTED	
63		8-598-475-10	TUNER,FSS BTF-WL411	
64		4-046-797-01	SCREW (3 x 12) (+) BVTAP	
65	*	4-088-700-01	BRACKET MAIN (7 SCREWS (3 x 12) (+)BVTAP	
66	*	A-1400-973-A	H2 BOARD MOUNTED	
67		1-573-657-21	PLUG F-PIN	

6-3. PICTURE TUBE

● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.		PART NO.	DESCRIPTION	REMARK
151		X-4040-791-2	BEZNET ASSY	152-154, 172,173
152		4-036-405-11	SPRING, COMPRESSION	
153		4-086-448-01	BUTTON, POWER	
154	*	4-086-707-01	GUIDE, LIGHT	
155	⚠	8-735-057-05	PICTURE TUBE (M68LNH070X)	
156	*	3-704-372-11	HOLDER, HV CABLE	
157		4-046-600-11	SPACER, DY	
158	*	4-062-970-12	CLIP (29RSN), DGC	
159	⚠	8-451-494-31	DEFLECTION YOKE (Y29RSA-S)	
160	*	A-1401-876-A	C6 BOARD MOUNTED	
161	⚠	1-419-294-11	COIL, DEGAUSSING	
162		4-063-935-21	CUSHION (50 X 550) DGC	
163		4-064-883-03	HOLDER, DGC	
164		1-452-896-11	COIL, NA ROTATION (RT200)	
165	*	A-1401-877-A	VM1 BOARD MOUNTED	

REF. NO.	PART NO.	DESCRIPTION	REMARK
166	4-369-318-61	SPRING, TENSION	
167	1-452-032-00	MAGNET, DISC	
168	1-452-094-00	CIRCULAR DISC MAGNET B	
169	4-077-228-02	PIECE, TLH CONVERGENCE	
170	4-079-376-01	BAND, DGC	
171	8-453-011-41	NA299-C	
172	4-088-697-01	DOOR	
173	4-087-491-11	SPRING (DOOR)	
174	4-046-765-12	SCREW TAPPING 7+ CROWN WASHER	
175	X-4387-214-3	PERMALOY ASSY CORRECTION	

A

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : µF, PF : µµF

COILS
- MMH : mH, UH : µH

REF NO.	PART NO.	DESCRIPTION			
	* A-1302-046-A	A BOARD COMPLETE **********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	4-382-854-21	SCREW (M3X14), P, SW (+)			
		<CAPACITOR>			
C004	1-163-001-11	CERAMIC CHIP	220PF	10.00%	50V
C005	1-163-001-11	CERAMIC CHIP	220PF	10.00%	50V
C006	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C007	1-126-947-11	ELECT	47UF	20.00%	16V
C013	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C014	1-126-947-11	ELECT	47UF	20.00%	25V
C015	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C016	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C017	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C018	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C019	1-126-947-11	ELECT	47UF	20.00%	25V
C020	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C022	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C023	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C024	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C026	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C027	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C028	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C030	1-126-965-91	ELECT	22UF	20.00%	50V
C031	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C032	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C041	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C042	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C043	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C044	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C047	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C048	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C050	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C053	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C056	1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
C061	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C101	1-126-964-11	ELECT	10UF	20.00%	50V
C103	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C104	1-126-935-11	ELECT	470UF	20.00%	16V
C106	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C107	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C108	1-126-947-11	ELECT	47UF	20.00%	16V
C109	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C110	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C111	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C112	1-126-947-11	ELECT	47UF	20.00%	16V
C113	1-126-935-11	ELECT	470UF	20.00%	16V
C114	1-126-967-11	ELECT	47UF	20.00%	50V

REF NO.	PART NO.	DESCRIPTION			
C118	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C300	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C301	1-126-935-11	ELECT	470UF	20.00%	16V
C302	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C303	1-126-959-11	ELECT	0.47UF	20.00%	50V
C304	1-126-967-11	ELECT	47UF	20.00%	50V
C305	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C306	1-163-233-91	CERAMIC CHIP	18PF	5.00%	50V
C307	1-163-233-91	CERAMIC CHIP	18PF	5.00%	50V
C308	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C309	1-137-378-11	MYLAR	0.22UF	5.00%	50V
C311	1-126-964-11	ELECT	10UF	20.00%	50V
C312	1-164-346-11	CERAMIC CHIP	1UF		16V
C313	1-164-346-11	CERAMIC CHIP	1UF		16V
C314	1-164-346-11	CERAMIC CHIP	1UF		16V
C315	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C316	1-126-934-11	ELECT	220UF	20.00%	16V
C317	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C318	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C319	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C320	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C321	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C322	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C324	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C325	1-126-960-11	ELECT	1UF	20.00%	50V
C327	1-126-965-91	ELECT	22UF	20.00%	50V
C328	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C329	1-126-963-11	ELECT	4.7UF	20.00%	50V
C330	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C331	1-126-963-11	ELECT	4.7UF	20.00%	50V
C332	1-126-963-11	ELECT	4.7UF	20.00%	50V
C335	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C336	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C337	1-126-961-11	ELECT	2.2UF	20.00%	50V
C341	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C342	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C347	1-126-933-11	ELECT	100UF	20.00%	16V
C348	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C349	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C351	1-126-964-11	ELECT	10UF	20.00%	50V
C352	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C353	1-126-960-11	ELECT	1UF	20.00%	50V
C356	1-126-947-11	ELECT	47UF	20.00%	16V
C357	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C358	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C359	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C502	1-163-145-00	CERAMIC CHIP	0.0015UF	5.00%	50V
C503	1-126-964-11	ELECT	10UF	20.00%	50V
C506	1-107-638-11	ELECT	33UF	20.00%	160V
C507	1-161-830-00	CERAMIC	0.0047UF		500V
C510	1-102-112-00	CERAMIC	330PF	10.00%	50V
C512	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF NO.		PART NO.	DESCRIPTION		REMARK	
C513		1-163-263-11	CERAMIC CHIP	330PF	5.00%	50V
C514		1-106-383-00	MYLAR	0.047UF	10.00%	200V
C517		1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C518		1-104-665-11	ELECT	100UF	20.00%	10V
C519		1-102-212-00	CERAMIC	820PF	10.00%	500V
C521		1-126-934-11	ELECT	220UF	20.00%	16V
C522		1-126-933-11	ELECT	100UF	20.00%	16V
C523		1-102-002-00	CERAMIC	680PF	10.00%	500V
C524		1-126-967-11	ELECT	47UF	20.00%	50V
C526		1-130-495-00	MYLAR	0.1UF	5.00%	50V
C527		1-102-820-00	CERAMIC	330PF	5.00%	50V
C528		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C530		1-137-372-11	MYLAR	0.022UF	5.00%	50V
C531		1-107-903-11	ELECT	2.2UF	20.00%	50V
C532		1-126-941-11	ELECT	470UF	20.00%	25V
C533		1-126-941-11	ELECT	470UF	20.00%	25V
C534		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C536		1-130-495-00	MYLAR	0.1UF	5.00%	50V
C537		1-126-969-11	ELECT	220UF	20.00%	50V
C538		1-127-717-11	FILM	19000PF	3%	1.2KV
C539	⚠	1-110-541-91	FILM	0.056UF	5.00%	630V
C540		1-136-171-00	FILM	0.33UF	5.00%	50V
C546		1-165-319-11	CERAMIC CHIP	0.1UF		50V
C549		1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C550		1-106-220-00	MYLAR	0.1UF	10.00%	100V
C551		1-126-960-11	ELECT	1UF	20.00%	50V
C552		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C553		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C554		1-137-417-11	MYLAR	0.0047UF	10.00%	200V
C556		1-126-941-11	ELECT	470UF	20.00%	25V
C557		1-126-941-11	ELECT	470UF	20.00%	25V
C558		1-123-024-21	ELECT	33UF		160V
C560		1-102-228-00	CERAMIC	470PF	10.00%	500V
C561		1-129-898-00	FILM	0.0022UF	5.00%	630V
C562		1-102-228-00	CERAMIC	470PF	10.00%	500V
C564		1-163-038-91	CERAMIC CHIP	0.1UF		25V
C565		1-107-655-11	ELECT	47UF	20.00%	250V
C566		1-102-244-00	CERAMIC	220PF	10.00%	500V
C567	⚠	1-115-520-21	FILM	0.68UF	5.00%	250V
C568		1-102-228-00	CERAMIC	470PF	10.00%	500V
C570		1-115-522-11	FILM	1UF	5.00%	250V
C572		1-117-661-21	FILM	0.15UF	5.00%	250V
C573		1-106-387-00	MYLAR	0.068UF	10.00%	200V
C574		1-104-709-11	ELECT	4.7UF		160V
C576		1-130-495-00	MYLAR	0.1UF	5.00%	50V
C577		1-106-395-00	MYLAR	0.15UF	10.00%	200V
C582		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C584		1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C586		1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C600	⚠	1-115-165-11	MYLAR	0.1UF	20.00%	250V
C602	⚠	1-115-165-11	MYLAR	0.1UF	20.00%	250V
C603		1-126-947-11	ELECT	47UF	20.00%	25V
C604		1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C605	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C606	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C607		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C608		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C609		1-126-968-11	ELECT	100UF	20.00%	50V
C610		1-126-964-11	ELECT	10UF	20.00%	50V
C611		1-161-830-00	CERAMIC	0.0047UF	99%	500V

REF NO.		PART NO.	DESCRIPTION		REMARK	
C612		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C613		1-125-906-11	ELECT	560UF	20.00%	450V
C614		1-126-964-11	ELECT	10UF	20.00%	50V
C615	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C616		1-130-202-00	FILM	0.022UF	5.00%	400V
C617		1-107-792-11	CERAMIC	100PF	5.00%	1KV
C618		1-125-893-11	FILM	680PF	3.00%	1.5KV
C619	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C620		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C621		1-102-114-00	CERAMIC	470PF	10.00%	50V
C622		1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C623		1-104-665-11	ELECT	100UF	20.00%	25V
C624		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C626		1-102-002-00	CERAMIC	680PF	10.00%	500V
C629		1-107-906-11	ELECT	10UF	20.00%	50V
C630		1-125-494-11	ELECT(BLOCK)	560UF	20%	160V
C631		1-128-550-11	ELECT	2200UF	20.00%	50V
C632		1-126-936-11	ELECT	3300UF	20.00%	16V
C633		1-104-999-11	MYLAR	0.1UF	10.00%	200V
C634		1-126-933-11	ELECT	100UF	20.00%	16V
C635		1-126-934-11	ELECT	220UF	20.00%	16V
C636		1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C638		1-161-830-00	CERAMIC	0.0047UF		500V
C641		1-102-002-00	CERAMIC	680PF	10.00%	500V
C642		1-126-943-11	ELECT	2200UF	20.00%	25V
C643		1-104-665-11	ELECT	100UF	20.00%	10V
C644		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C645		1-137-605-11	MYLAR	0.01UF	10.00%	250V
C646		1-107-679-91	ELECT	10UF	20.00%	450V
C647		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C649		1-126-940-11	ELECT	330UF	20.00%	25V
C650		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C651		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C652		1-126-965-91	ELECT	22UF	20.00%	50V
C653		1-126-947-11	ELECT	47UF	20.00%	25V
C655	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C657		1-101-821-00	CERAMIC	0.0022UF		500V
C659		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C912		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C913		1-104-665-11	ELECT	100UF	20.00%	10V

<CONNECTOR>

CN101	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN102	*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P
CN104		1-695-915-11	TAB (CONTACT)
CN105		1-695-915-11	TAB (CONTACT)
CN106		1-564-506-11	PLUG, CONNECTOR 3P
CN201	*	1-564-508-11	PLUG, CONNECTOR 5P
CN202	*	1-508-847-00	PIN, CONNECTOR 4P
CN303	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN305		1-564-509-11	PLUG, CONNECTOR 6P
CN501	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P
CN502	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P
CN503	*	1-564-510-11	PLUG, CONNECTOR 7P
CN504		1-695-915-11	TAB (CONTACT)
CN505	*	1-564-508-11	PLUG, CONNECTOR 5P
CN507	*	1-564-509-11	PLUG, CONNECTOR 6P
CN601	*	1-580-843-11	PIN, CONNECTOR (POWER)
CN602	*	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CN603	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P

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REF NO.		PART NO.	DESCRIPTION	REMARK
CN604	*	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	
CN608		1-564-507-41	PLUG, CONNECTOR 4P	
CN904	*	1-564-512-11	PLUG, CONNECTOR 9P	
			<DIODE>	
D001		8-719-081-97	MMDL914T1	
D002		8-719-081-97	MMDL914T1	
D004		1-216-295-91	SHORT CHIP 0	
D005		8-719-081-97	MMDL914T1	
D006		1-216-295-91	SHORT CHIP 0	
D007		8-719-081-97	MMDL914T1	
D008		8-719-081-97	MMDL914T1	
D009		8-719-081-97	MMDL914T1	
D010		8-719-158-35	RD9.1S-B	
D300		1-216-295-91	SHORT CHIP 0	
D301		8-719-081-97	MMDL914T1	
D306		8-719-081-97	MMDL914T1	
D307		8-719-081-97	MMDL914T1	
D308		8-719-081-97	MMDL914T1	
D309		8-719-159-10	RD5.1SB-T2	
D311		8-719-081-97	MMDL914T1	
D312		8-719-081-97	MMDL914T1	
D313		8-719-081-97	MMDL914T1	
D315		8-719-081-97	MMDL914T1	
D316		8-719-037-06	RD7.5SB1-T1	
D319		8-719-158-35	RD9.1S-B	
D320		8-719-158-35	RD9.1S-B	
D321		8-719-158-35	RD9.1S-B	
D322		8-719-158-35	RD9.1S-B	
D504		8-719-075-05	DIODE FR104-A5	
D505		8-719-081-97	MMDL914T1	
D506		8-719-911-19	1SS119-25	
D507		8-719-081-97	MMDL914T1	
D508		8-719-081-97	MMDL914T1	
D509		1-216-073-91	RES-CHIP 10K 5% 1/10W	
D510		8-719-081-97	MMDL914T1	
D511		8-719-081-97	MMDL914T1	
D512		8-719-081-97	MMDL914T1	
D513		8-719-908-03	GP08D	
D517		8-719-312-71	RS3FS	
D518		8-719-074-35	RU4AM-T4	
D519		8-719-312-71	RS3FS	
D521		8-719-302-43	EL1Z	
D522		8-719-028-45	D2L20U	
D523		8-719-302-43	EL1Z	
D527		8-719-908-03	GP08D	
D528		8-719-908-03	GP08D	
D532		8-719-081-97	MMDL914T1	
D534		8-719-081-97	MMDL914T1	
D600		8-719-911-19	1SS119-25	
D602		8-719-911-19	1SS119-25	
D603		8-719-150-92	RD33EB3T	
D604		8-719-028-72	RGP02-17EL-6433	
D605		8-719-510-22	D3SB60	
D606		8-719-108-18	5P-6M	
D607		8-719-081-97	MMDL914T1	
D608		8-719-110-53	RD20ES-B2	
D609		8-719-311-31	RU-1P	
D610		8-719-043-76	AK04V0	
D611		8-719-046-74	AU-01Z-V1	
D612		8-719-043-52	F5KQ60	
D613		8-719-046-74	AU-01Z-V1	
D614		8-719-046-74	AU-01Z-V1	
D616		8-719-083-56	DIODE 30DF2N-FC5	
D620		8-719-110-72	RD30ESB2	
D621		8-719-071-38	D5S6M	
D622		8-719-029-04	D5L60	
D623		8-719-082-03	DIODE MM3Z15VT1	
D624		8-719-081-97	MMDL914T1	
D625		8-719-977-28	DTZ10B	
D628		8-719-911-19	1SS119-25	
D631		8-719-068-00	ERC04-06SE	
D632		8-719-068-00	ERC04-06SE	
D633		8-719-948-45	ERA22-08	
D634		8-719-081-97	MMDL914T1	
D635		8-719-081-97	MMDL914T1	
D636		8-719-510-02	D1NS4	
D637		8-719-109-96	RD6.8ES-B1	
D638		8-719-510-48	D1N20R	
			<CONNECTOR>	
DY1	*	1-580-798-11	CONNECTOR PIN (DY) 6P	
			<FERRITE BEAD>	
FB300		1-412-911-31	FERRITE 0UH	
FB501		1-410-397-21	FERRITE 1.1UH	
FB502		1-410-397-21	FERRITE 1.1UH	
FB600		1-410-397-21	FERRITE 1.1UH	
FB601		1-410-397-21	FERRITE 1.1UH	
FB602		1-410-397-21	FERRITE 1.1UH	
FB603		1-410-397-21	FERRITE 1.1UH	
FB604		1-412-911-31	FERRITE 0UH	
FB605		1-412-911-31	FERRITE 0UH	
FB606		1-412-911-31	FERRITE 0UH	
FB608		1-412-911-31	FERRITE 0UH	
FB611		1-410-397-21	FERRITE 1.1UH	
FB612		1-410-397-21	FERRITE 1.1UH	
FB613		1-410-397-21	FERRITE 1.1UH	
FB613		1-410-397-21	FERRITE 1.1UH	
FB613		1-412-911-11	FERRITE 0UH	
FB615		1-410-397-21	FERRITE 1.1UH	
			<IC>	
IC001		8-752-932-96	IC CXP750097-604S	
IC002		8-759-371-21	MM1319AFBE	
IC003		8-759-672-78	M24C08-BN6(A)	
IC301		8-752-095-72	CXA2159S	
IC302		8-759-672-27	TDA9183T	
IC502		8-759-700-07	NJM2903M	
IC503		8-759-980-58	TDA8172	
IC601		8-749-019-09	IC STR-F6456S	
IC602		8-749-920-61	SE-135N	
IC603		8-759-701-59	NJM78M09FA	
IC604		8-759-231-53	TA7805S	
			<CHIP CONDUCTOR>	
JR001		1-216-295-91	SHORT CHIP 0	
JR002		1-216-295-91	SHORT CHIP 0	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A

REF NO.	PART NO.	DESCRIPTION			REMARK
JR003	1-216-295-91	SHORT CHIP	0		
JR004	1-216-295-91	SHORT CHIP	0		
JR006	1-216-295-91	SHORT CHIP	0		
JR007	1-216-295-91	SHORT CHIP	0		
JR008	1-216-295-91	SHORT CHIP	0		
JR010	1-216-295-91	SHORT CHIP	0		
JR012	1-216-295-91	SHORT CHIP	0		
JR014	1-216-295-91	SHORT CHIP	0		
JR015	1-216-295-91	SHORT CHIP	0		
JR016	1-216-295-91	SHORT CHIP	0		
JR020	1-216-295-91	SHORT CHIP	0		
JR022	1-216-295-91	SHORT CHIP	0		
JR023	1-216-295-91	SHORT CHIP	0		
JR024	1-216-295-91	SHORT CHIP	0		
JR025	1-216-295-91	SHORT CHIP	0		
JR028	1-216-295-91	SHORT CHIP	0		
JR030	1-216-295-91	SHORT CHIP	0		
JR031	1-216-295-91	SHORT CHIP	0		
JR104	1-216-295-91	SHORT CHIP	0		
JR107	1-216-295-91	SHORT CHIP	0		
JR111	1-216-295-91	SHORT CHIP	0		
JR214	1-216-295-91	SHORT CHIP	0		
JR304	1-216-295-91	SHORT CHIP	0		
JR308	1-216-295-91	SHORT CHIP	0		
JR309	1-216-295-91	SHORT CHIP	0		
JR310	1-216-295-91	SHORT CHIP	0		
JR311	1-216-295-91	SHORT CHIP	0		
JR500	1-216-295-91	SHORT CHIP	0		
JR501	1-216-295-91	SHORT CHIP	0		
JR502	1-216-295-91	SHORT CHIP	0		
JR503	1-216-295-91	SHORT CHIP	0		
JR600	1-216-295-91	SHORT CHIP	0		
		<COIL>			
L002	1-414-856-11	INDUCTOR	10UH		
L003	1-414-180-11	INDUCTOR	3.3UH		
L004	1-249-395-11	CARBON	15	5%	1/4W
L005	1-414-233-22	FERRITE	0UH		
L101	1-414-856-11	INDUCTOR	10UH		
L102	1-414-189-31	INDUCTOR	100UH		
L103	1-414-856-11	INDUCTOR	10UH		
L104	1-414-856-11	INDUCTOR	10UH		
L105	1-414-185-41	INDUCTOR	22UH		
L301	1-414-189-31	INDUCTOR	100UH		
L302	1-414-185-41	INDUCTOR	22UH		
L303	1-414-189-31	INDUCTOR	100UH		
L304	1-414-189-31	INDUCTOR	100UH		
L501	1-412-525-31	INDUCTOR	10UH		
L502	1-416-947-11	COIL, AIR-CORE			
L503	1-412-525-31	INDUCTOR	10UH		
L504	1-412-525-31	INDUCTOR	10UH		
L507	1-419-633-21	INDUCTOR	10MH		
L511	1-406-977-71	INDUCTOR	0UH		
L513	1-412-551-31	INDUCTOR	1.5MH		
L515	1-459-104-00	COIL, WITH CORE			
L518	1-414-187-11	INDUCTOR	47UH		
L601	1-412-527-11	INDUCTOR	15UH		
L905	1-414-856-11	INDUCTOR	10UH		

REF NO.	PART NO.	DESCRIPTION			REMARK
		<PHOTO COUPLER>			
PH600	⚠ 8-749-924-35	ON3171-R			
		<IC LINK>			
PS600	1-533-597-41	IC LINK	5A	90V	
PS601	1-533-597-41	IC LINK	5A	90V	
		<TRANSISTOR>			
Q001	8-729-216-22	2SA1162-G			
Q002	8-729-230-49	2SC2712-YG			
Q101	8-729-230-49	2SC2712-YG			
Q301	8-729-216-22	2SA1162-G			
Q302	8-729-230-49	2SC2712-YG			
Q303	8-729-216-22	2SA1162-G			
Q304	8-729-216-22	2SA1162-G			
Q305	8-729-216-22	2SA1162-G			
Q306	8-729-230-49	2SC2712-YG			
Q307	8-729-230-49	2SC2712-YG			
Q308	8-729-216-22	2SA1162-G			
Q310	8-729-230-49	2SC2712-YG			
Q311	8-729-230-49	2SC2712-YG			
Q312	8-729-216-22	2SA1162-G			
Q313	8-729-230-49	2SC2712-YG			
Q314	8-729-216-22	2SA1162-G			
Q315	8-729-421-19	UN2213			
Q316	8-729-216-22	2SA1162-G			
Q317	8-729-216-22	2SA1162-G			
Q501	8-729-216-22	2SA1162-G			
Q502	8-729-216-22	2SA1162-G			
Q503	8-729-230-49	2SC2712-YG			
Q505	8-729-931-45	IRF614			
Q506	8-729-119-80	2SC2688-LK			
Q507	8-729-216-22	2SA1162-G			
Q509	8-729-230-49	2SC2712-YG			
Q511	8-729-048-07	2SD2578-CA			
Q600	8-729-119-78	2SC2785-HFE			
Q601	8-729-023-22	2SD2114K			
Q602	8-729-230-49	2SC2712-YG			
Q603	8-729-424-08	UN2111			
Q604	8-729-200-17	2SA1091-O			
Q605	8-729-044-30	2SK2845-LB102			
Q606	8-729-230-49	2SC2712-YG			
Q607	8-729-823-22	2SC3576			
Q608	8-729-230-49	2SC2712-YG			
		<RESISTOR>			
R001	1-414-233-22	FERRITE	0UH		
R002	1-216-025-11	RES-CHIP	100	5%	1/10W
R003	1-216-073-91	RES-CHIP	10K	5%	1/10W
R004	1-216-025-11	RES-CHIP	100	5%	1/10W
R005	1-216-025-11	RES-CHIP	100	5%	1/10W
R006	1-216-689-11	RES-CHIP	39K	5%	1/10W
R007	1-216-033-00	RES-CHIP	220	5%	1/10W
R008	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R009	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R010	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R011	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R012	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R013	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R014	1-216-025-11	RES-CHIP	100	5%	1/10W
R015	1-216-025-11	RES-CHIP	100	5%	1/10W
R018	1-216-033-00	RES-CHIP	220	5%	1/10W
R019	1-216-073-91	RES-CHIP	10K	5%	1/10W
R020	1-216-045-00	RES-CHIP	680	5%	1/10W
R021	1-216-073-91	RES-CHIP	10K	5%	1/10W
R022	1-216-295-91	SHORT CHIP	0		
R023	1-216-049-11	RES-CHIP	1K	5%	1/10W
R024	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R025	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R026	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R027	1-216-049-11	RES-CHIP	1K	5%	1/10W
R028	1-216-049-11	RES-CHIP	1K	5%	1/10W
R029	1-216-049-11	RES-CHIP	1K	5%	1/10W
R030	1-216-025-11	RES-CHIP	100	5%	1/10W
R031	1-216-049-11	RES-CHIP	1K	5%	1/10W
R032	1-216-025-11	RES-CHIP	100	5%	1/10W
R034	1-216-049-11	RES-CHIP	1K	5%	1/10W
R035	1-216-025-11	RES-CHIP	100	5%	1/10W
R037	1-216-077-91	RES-CHIP	15K	5%	1/10W
R040	1-216-025-11	RES-CHIP	100	5%	1/10W
R041	1-216-025-11	RES-CHIP	100	5%	1/10W
R042	1-216-295-91	SHORT CHIP	0		
R043	1-216-049-11	RES-CHIP	1K	5%	1/10W
R044	1-216-025-11	RES-CHIP	100	5%	1/10W
R045	1-414-233-22	FERRITE	0UH		
R046	1-216-049-11	RES-CHIP	1K	5%	1/10W
R047	1-414-233-22	FERRITE	0UH		
R048	1-216-073-91	RES-CHIP	10K	5%	1/10W
R050	1-216-073-91	RES-CHIP	10K	5%	1/10W
R053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R058	1-216-295-91	SHORT CHIP	0		
R059	1-216-295-91	SHORT CHIP	0		
R060	1-216-295-91	SHORT CHIP	0		
R061	1-216-295-91	SHORT CHIP	0		
R062	1-216-041-00	RES-CHIP	470	5%	1/10W
R063	1-216-041-00	RES-CHIP	470	5%	1/10W
R064	1-216-041-00	RES-CHIP	470	5%	1/10W
R065	1-216-041-00	RES-CHIP	470	5%	1/10W
R066	1-216-049-11	RES-CHIP	1K	5%	1/10W
R067	1-216-049-11	RES-CHIP	1K	5%	1/10W
R068	1-216-041-00	RES-CHIP	470	5%	1/10W
R103	1-216-025-11	RES-CHIP	100	5%	1/10W
R104	1-216-025-11	RES-CHIP	100	5%	1/10W
R105	1-216-295-91	SHORT CHIP	0		
R109	1-216-041-00	RES-CHIP	470	5%	1/10W
R111	1-216-025-11	RES-CHIP	100	5%	1/10W
R112	1-216-025-11	RES-CHIP	100	5%	1/10W
R113	1-216-025-11	RES-CHIP	100	5%	1/10W
R114	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R115	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R225	1-216-033-00	RES-CHIP	220	5%	1/10W
R226	1-216-033-00	RES-CHIP	220	5%	1/10W
R227	1-216-033-00	RES-CHIP	220	5%	1/10W
R237	1-216-295-91	SHORT CHIP	0		
R301	1-216-113-00	RES-CHIP	470K	5%	1/10W
R302	1-216-295-91	SHORT CHIP	0		
R303	1-216-049-11	RES-CHIP	1K	5%	1/10W
R304	1-216-073-91	RES-CHIP	10K	5%	1/10W
R308	1-216-025-11	RES-CHIP	100	5%	1/10W
R309	1-216-025-11	RES-CHIP	100	5%	1/10W
R310	1-216-025-11	RES-CHIP	100	5%	1/10W
R311	1-216-041-00	RES-CHIP	470	5%	1/10W
R312	1-216-039-00	RES-CHIP	390	5%	1/10W
R313	1-216-037-00	RES-CHIP	330	5%	1/10W
R314	1-216-083-00	RES-CHIP	27K	5%	1/10W
R315	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R316	1-216-037-00	RES-CHIP	330	5%	1/10W
R317	1-216-091-00	RES-CHIP	56K	5%	1/10W
R318	1-216-039-00	RES-CHIP	390	5%	1/10W
R319	1-216-025-11	RES-CHIP	100	5%	1/10W
R320	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R321	1-216-073-91	RES-CHIP	10K	5%	1/10W
R322	1-216-033-00	RES-CHIP	220	5%	1/10W
R323	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R324	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R326	1-216-029-00	RES-CHIP	150	5%	1/10W
R327	1-216-033-00	RES-CHIP	220	5%	1/10W
R328	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R329	1-216-041-00	RES-CHIP	470	5%	1/10W
R331	1-216-295-91	SHORT CHIP	0		
R332	1-216-033-00	RES-CHIP	220	5%	1/10W
R335	1-216-045-00	RES-CHIP	680	5%	1/10W
R338	1-216-037-00	RES-CHIP	330	5%	1/10W
R339	1-216-033-00	RES-CHIP	220	5%	1/10W
R340	1-216-025-11	RES-CHIP	100	5%	1/10W
R345	1-216-081-00	RES-CHIP	22K	5%	1/10W
R348	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R349	1-216-073-91	RES-CHIP	10K	5%	1/10W
R350	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R351	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R354	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R355	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R356	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R357	1-216-079-00	RES-CHIP	18K	5%	1/10W
R358	1-216-049-11	RES-CHIP	1K	5%	1/10W
R359	1-216-033-00	RES-CHIP	220	5%	1/10W
R360	1-216-033-00	RES-CHIP	220	5%	1/10W
R361	1-216-073-91	RES-CHIP	10K	5%	1/10W
R362	1-216-075-00	RES-CHIP	12K	5%	1/10W
R363	1-216-079-00	RES-CHIP	18K	5%	1/10W
R364	1-216-295-91	SHORT CHIP	0		
R365	1-216-033-00	RES-CHIP	220	5%	1/10W
R366	1-216-073-91	RES-CHIP	10K	5%	1/10W
R367	1-216-073-91	RES-CHIP	10K	5%	1/10W
R368	1-216-073-91	RES-CHIP	10K	5%	1/10W
R370	1-216-033-00	RES-CHIP	220	5%	1/10W
R371	1-216-083-00	RES-CHIP	27K	5%	1/10W
R372	1-216-091-00	RES-CHIP	56K	5%	1/10W
R376	1-216-081-00	RES-CHIP	22K	5%	1/10W
R377	1-216-121-11	RES-CHIP	1M	5%	1/10W
R378	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R379	1-218-179-11	RES-CHIP	10M	5%	1/10W
R381	1-216-295-91	SHORT CHIP	0		
R383	1-216-049-11	RES-CHIP	1K	5%	1/10W
R384	1-216-041-00	RES-CHIP	470	5%	1/10W
R385	1-216-029-00	RES-CHIP	150	5%	1/10W
R391	1-216-295-91	SHORT CHIP	0		
R500	1-249-417-11	CARBON	1K	5%	1/4W
R501	1-216-049-11	RES-CHIP	1K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A

REF NO.	PART NO.	DESCRIPTION		REMARK	
R505	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R506	1-216-081-00	RES-CHIP	22K	5%	1/10W
R507	1-249-389-11	CARBON	4.7	5%	1/4W
R508	1-216-471-11	METAL OXIDE	27	5%	3W
R509	1-216-473-11	METAL OXIDE	56	5%	3W
R510	1-216-449-11	METAL OXIDE	56	5%	2W
R511	1-215-908-00	METAL OXIDE	33	5%	3W
R515	1-215-911-11	METAL OXIDE	100	5%	3W
R517	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R518	1-247-807-31	CARBON	100	5%	1/4W
R519	1-215-913-11	METAL OXIDE	220	5%	3W
R520	1-215-445-00	METAL	10K	1%	1/4W
R522	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R523	1-249-411-11	CARBON	330	5%	1/4W
R525	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R526	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R527	1-216-001-00	RES-CHIP	10	5%	1/10W
R528	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R529	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R531	1-247-843-11	CARBON	3.3K	5%	1/4W
R533	1-249-417-11	CARBON	1K	5%	1/4W
R534	1-216-364-21	METAL OXIDE	0.39	5%	2W
R535	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R536	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R537	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R539	1-216-049-11	RES-CHIP	1K	5%	1/10W
R540	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R541	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R542	1-216-073-91	RES-CHIP	10K	5%	1/10W
R543	1-216-437-00	METAL OXIDE	5.6K	5%	1W
R544	1-215-917-11	METAL OXIDE	1K	5%	3W
R545	1-216-077-91	RES-CHIP	15K	5%	1/10W
R546	1-216-077-91	RES-CHIP	15K	5%	1/10W
R547	1-216-085-91	RES-CHIP	33K	5%	1/10W
R548	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R549	1-215-452-00	METAL	20K	1%	1/4W
R550	1-216-097-11	RES-CHIP	100K	5%	1/10W
R551	1-249-441-11	CARBON	100K	5%	1/4W
R552	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R553	1-215-453-00	METAL	22K	1%	1/4W
R554	1-215-453-00	METAL	22K	1%	1/4W
R556	1-215-437-00	METAL	4.7K	1%	1/4W
R558	1-247-843-11	CARBON	3.3K	5%	1/4W
R559	1-249-429-11	CARBON	10K	5%	1/4W
R560	1-216-073-91	RES-CHIP	10K	5%	1/10W
R561	1-216-049-11	RES-CHIP	1K	5%	1/10W
R562	1-249-401-11	CARBON	47	5%	1/4W
R564	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R565	1-216-073-91	RES-CHIP	10K	5%	1/10W
R567	1-216-105-91	RES-CHIP	220K	5%	1/10W
R568	1-249-383-11	CARBON	1.5	5%	1/4W
R570	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R571	1-215-443-00	METAL	8.2K	1%	1/4W
R573	1-216-083-00	RES-CHIP	27K	5%	1/10W
R575	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R577	1-215-913-11	METAL OXIDE	220	5%	3W
R578	1-216-369-00	METAL OXIDE	1	5%	2W
R579	1-216-295-91	SHORT CHIP	0		
R580	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R581	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R582	1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R584	1-208-822-11	METAL CHIP	47K	0.5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R585	1-249-385-11	CARBON	2.2	5%	1/4W
R586	1-211-973-11	METAL CHIP	15	0.5%	1/10W
R587	1-208-842-11	METAL CHIP	330K	0.5%	1/10W
R588	1-215-888-00	METAL OXIDE	220	5%	2W
R589	1-215-888-00	METAL OXIDE	220	5%	2W
R590	1-215-465-00	METAL	68K	1%	1/4W
R591	1-260-288-11	CARBON	0.47	5%	1/2W
R592	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R593	1-260-288-11	CARBON	0.47	5%	1/2W
R594	1-260-288-11	CARBON	0.47	5%	1/2W
R595	1-216-073-91	RES-CHIP	10K	5%	1/10W
R596	1-215-916-00	METAL OXIDE	680	5%	3W
R597	1-247-750-11	CARBON	680	5%	1/2W
R598	1-249-438-11	CARBON	56K	5%	1/4W
R599	1-249-389-11	CARBON	4.7	5%	1/4W
R600	1-249-438-11	CARBON	56K	5%	1/4W
R601	1-249-420-11	CARBON	1.8K	5%	1/4W
R602	1-249-389-11	CARBON	4.7	5%	1/4W
R603	1-215-485-00	METAL	470K	1%	1/4W
R604	1-216-097-11	RES-CHIP	100K	5%	1/10W
R607	1-249-425-11	CARBON	4.7K	5%	1/4W
R608	1-240-205-91	METAL	22M	5%	1/2W
R609	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R610	1-216-073-91	RES-CHIP	10K	5%	1/10W
R611	1-216-089-91	RES-CHIP	47K	5%	1/10W
R612	1-216-045-00	RES-CHIP	680	5%	1/10W
R614	1-216-041-00	RES-CHIP	470	5%	1/10W
R615	1-216-369-00	METAL OXIDE	1	5%	2W
R616	1-260-302-51	CARBON	6.8	5%	1/2W
R617	1-247-791-91	CARBON	22	5%	1/4W
R619	1-260-128-11	CARBON	270K	5%	1/2W
R620	⚠ 1-129-720-91	FILM	0.033UF	5.00%	630V
R621	1-215-864-00	METAL OXIDE	150	5%	1W
R623	1-216-095-00	RES-CHIP	82K	5%	1/10W
R624	1-216-089-91	RES-CHIP	47K	5%	1/10W
R626	1-216-049-11	RES-CHIP	1K	5%	1/10W
R627	1-240-251-11	CEMENTED	6.8	5%	10W
R629	1-247-747-11	CARBON	470	5%	1/2W
R630	1-249-429-11	CARBON	10K	5%	1/4W
R631	1-216-089-91	RES-CHIP	47K	5%	1/10W
R632	1-220-886-11	FUSIBLE	0.1	10%	1W
R634	⚠ 1-240-917-91	METAL	8.2M	5%	1W
R635	1-216-492-11	METAL OXIDE	82K	5%	3W
R635	1-216-492-11	METAL OXIDE	82K	5%	3W
R636	1-215-924-00	METAL OXIDE	15K	5%	3W
R637	1-216-492-11	METAL OXIDE	82K	5%	3W
R637	1-216-492-11	METAL OXIDE	82K	5%	3W
R639	1-216-361-21	METAL OXIDE	0.22	5%	2W
R640	1-249-415-11	CARBON	680	5%	1/4W
R641	1-216-361-21	METAL OXIDE	0.22	5%	2W
R642	1-249-419-11	CARBON	1.5K	5%	1/4W
R643	1-247-843-11	CARBON	3.3K	5%	1/4W
R644	1-249-419-11	CARBON	1.5K	5%	1/4W
R646	1-215-924-00	METAL OXIDE	15K	5%	3W
R647	1-249-387-11	CARBON	3.3	5%	1/4W
R648	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R649	1-249-417-11	CARBON	1K	5%	1/4W
R650	1-215-882-00	METAL OXIDE	22	5%	2W
R652	1-215-900-11	METAL OXIDE	22K	5%	2W
R653	1-215-873-00	METAL OXIDE	4.7K	5%	1W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A **B1**

REF NO.		PART NO.	DESCRIPTION			REMARK
R656		1-249-417-11	CARBON	1K	5%	1/4W
R657		1-260-127-11	CARBON	220K	5%	1/2W
R659		1-216-049-11	RES-CHIP	1K	5%	1/10W
R660		1-216-073-91	RES-CHIP	10K	5%	1/10W
R661		1-215-873-00	METAL OXIDE	4.7K	5%	1W
R682		1-219-134-11	FUSIBLE	0.1	10%	1/4W
R909		1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R910		1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R919		1-216-071-00	RES-CHIP	8.2K	5%	1/10W
			<RELAY>			
RY600	⚠	1-755-299-11	RELAY, AC POWER			
RY601	⚠	1-755-299-11	RELAY, AC POWER			
			<SWITCH>			
S501		1-572-707-11	SWITCH, LEVER			
S502		1-572-707-11	SWITCH, LEVER			
			<TRANSFORMER>			
T501		1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE			
T503	⚠	1-453-284-11	TRANSFORMER ASSY FLY BACK,(NX-4009//M3I4)			
T504		1-431-693-11	TRANSFORMER, HORIZONTAL LINEAR			
T505		1-435-869-11	TRANSFORMER, FERRITE (PMT)			
T601	⚠	1-429-707-12	TRANSFORMER, LINE FILTER			
T603	⚠	1-431-976-41	TRANSFORMER, CONVERTER			
T604	⚠	1-431-852-11	TRANSFORMER, CONVERTER (SRT)			
			<THERMISTOR>			
TH500		1-800-193-00	THERMISTOR			
TH600		1-803-586-11	THERMISTOR, NTC			
			<THERMISTOR>			
THP600	⚠	1-803-541-11	THERMISTOR			
			<TUNER>			
TU101		8-598-475-10	TUNER, FSS BTF-WL411			
			<VARISTOR>			
VDR600		1-803-830-11	VARISTOR (ERZV14D621)			
			<CRYSTAL>			
X001		1-781-174-21	VIBRATOR, CERAMIC			
X301		1-781-134-21	VINRATOR, CRYSTAL			
X302		1-781-132-21	VIBRATOR, CRYSTAL			

REF NO.		PART NO.	DESCRIPTION			REMARK
**********						
	*	A-1131-652-A	B1 BOARD MOUNTED			
			**********			
			<CAPACITOR>			
C1513		1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1514		1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1515		1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C1517		1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1518		1-126-967-11	ELECT	47UF	20.00%	50V
C1519		1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1520		1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1522		1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1523		1-163-255-11	CERAMIC CHIP	150PF	5.00%	50V
C1524		1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C1525		1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1526		1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1528		1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1529		1-163-255-11	CERAMIC CHIP	150PF	5.00%	50V
C1530		1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C1543		1-126-933-11	ELECT	100UF	20.00%	16V
C1544		1-165-319-11	CERAMIC CHIP	0.1UF		50V
C1554		1-165-319-11	CERAMIC CHIP	0.1UF		50V
C1555		1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1556		1-163-038-91	CERAMIC CHIP	0.1UF		25V
			<CONNECTOR>			
CN1501	*	1-564-511-11	PLUG, CONNECTOR 8P			
CN1502	*	1-564-508-11	PLUG, CONNECTOR 5P			
CN1503		1-764-811-11	CONNECTOR, BOARD TO BOARD 10P			
			<DIODE>			
D1501		8-719-158-35	RD9.1S-B			
			<IC>			
IC1502		8-759-439-64	HEF4053BT			
			<COIL>			
L1501		1-414-856-11	INDUCTOR	10UH		
L1506		1-414-857-11	INDUCTOR	100UH		
L1507		1-414-187-11	INDUCTOR	47UH		
L1508		1-414-187-11	INDUCTOR	47UH		
L1509		1-414-857-11	INDUCTOR	100UH		
L1510		1-414-187-11	INDUCTOR	47UH		
L1511		1-414-187-11	INDUCTOR	47UH		
			<TRANSISTOR>			
Q1501		8-729-010-25	MSD601-RT1			
Q1502		8-729-216-22	2SA1162-G			
Q1503		8-729-010-25	MSD601-RT1			
Q1504		8-729-010-25	MSD601-RT1			
Q1505		8-729-010-25	MSD601-RT1			
Q1506		8-729-010-25	MSD601-RT1			
Q1507		8-729-216-22	2SA1162-G			
Q1509		8-729-010-25	MSD601-RT1			

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REF NO.	PART NO.	DESCRIPTION			REMARK
Q1510	8-729-010-25	MSD601-RT1			
Q1511	8-729-216-22	2SA1162-G			
Q1514	8-729-010-25	MSD601-RT1			
Q1515	8-729-010-25	MSD601-RT1			
Q1516	8-729-216-22	2SA1162-G			
Q1520	8-729-010-25	MSD601-RT1			
Q1522	8-729-010-25	MSD601-RT1			
Q1523	8-729-216-22	2SA1162-G			
		<RESISTOR>			
R1501	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1502	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1503	1-216-025-11	RES-CHIP	100	5%	1/10W
R1504	1-216-025-11	RES-CHIP	100	5%	1/10W
R1506	1-216-025-11	RES-CHIP	100	5%	1/10W
R1507	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1508	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1511	1-216-033-00	RES-CHIP	220	5%	1/10W
R1512	1-216-005-00	RES-CHIP	15	5%	1/10W
R1515	1-216-041-00	RES-CHIP	470	5%	1/10W
R1516	1-216-025-11	RES-CHIP	100	5%	1/10W
R1517	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1520	1-216-079-00	RES-CHIP	18K	5%	1/10W
R1522	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1523	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1528	1-216-033-00	RES-CHIP	220	5%	1/10W
R1529	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R1531	1-216-045-00	RES-CHIP	680	5%	1/10W
R1537	1-216-041-00	RES-CHIP	470	5%	1/10W
R1538	1-216-041-00	RES-CHIP	470	5%	1/10W
R1540	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1541	1-216-041-00	RES-CHIP	470	5%	1/10W
R1542	1-216-041-00	RES-CHIP	470	5%	1/10W
R1543	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1545	1-216-041-00	RES-CHIP	470	5%	1/10W
R1547	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1548	1-216-025-11	RES-CHIP	100	5%	1/10W
R1549	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1551	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1552	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1553	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1554	1-216-033-00	RES-CHIP	220	5%	1/10W
R1556	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1559	1-216-041-00	RES-CHIP	470	5%	1/10W
R1560	1-216-041-00	RES-CHIP	470	5%	1/10W
R1561	1-216-041-00	RES-CHIP	470	5%	1/10W
R1562	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1563	1-216-041-00	RES-CHIP	470	5%	1/10W
R1566	1-216-041-00	RES-CHIP	470	5%	1/10W
R1567	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1568	1-216-041-00	RES-CHIP	470	5%	1/10W
R1569	1-216-049-11	RES-CHIP	1K	5%	1/10W

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* A-1300-895-A B10 BOARD COMPLETE
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4-382-854-11 SCREW (M3X10), P, SW (+)

REF NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C1305	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1307	1-164-346-11	CERAMIC CHIP	1UF		16V
C1310	1-126-947-11	ELECT	47UF	20.00%	16V
C1312	1-126-947-11	ELECT	47UF	20.00%	16V
C1330	1-126-964-11	ELECT	10UF	20.00%	50V
C1333	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1395	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1396	1-125-889-91	CERAMIC CHIP	2.2UF	10%	10V
C1401	1-104-661-91	ELECT	330UF	20.00%	16V
C1402	1-126-947-11	ELECT	47UF	20.00%	25V
C1403	1-126-947-11	ELECT	47UF	20.00%	25V
C1404	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1405	1-126-947-11	ELECT	47UF	20.00%	25V
C1406	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1408	1-126-964-11	ELECT	10UF	20.00%	50V
C1410	1-126-947-11	ELECT	47UF	20.00%	25V
C1411	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1413	1-126-935-11	ELECT	470UF	20.00%	16V
C1414	1-164-346-11	CERAMIC CHIP	1UF		16V
C1415	1-126-947-11	ELECT	47UF	20.00%	25V
C1416	1-164-346-11	CERAMIC CHIP	1UF		16V
C1418	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1421	1-164-346-11	CERAMIC CHIP	1UF		16V
C1422	1-164-346-11	CERAMIC CHIP	1UF		16V
C1423	1-164-346-11	CERAMIC CHIP	1UF		16V
C1425	1-164-346-11	CERAMIC CHIP	1UF		16V
C1426	1-164-346-11	CERAMIC CHIP	1UF		16V
C1428	1-104-665-11	ELECT	100UF	20.00%	25V
C1429	1-104-663-11	ELECT	33UF	20.00%	25V
C1431	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1432	1-126-933-11	ELECT	100UF	20.00%	16V
C1433	1-126-947-11	ELECT	47UF	20.00%	16V
C1434	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1435	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1436	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1439	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1440	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1441	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1442	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1443	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1444	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1445	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1446	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1447	1-126-964-11	ELECT	10UF	20.00%	50V
C1448	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1449	1-126-933-11	ELECT	100UF	20.00%	16V
C1457	1-164-346-11	CERAMIC CHIP	1UF		16V
C1459	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1460	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1461	1-164-346-11	CERAMIC CHIP	1UF		16V
C1462	1-164-346-11	CERAMIC CHIP	1UF		16V
C1464	1-126-933-11	ELECT	100UF	20.00%	16V
C3201	1-126-964-11	ELECT	10UF	20.00%	50V
C3202	1-136-171-00	FILM	0.33UF	5.00%	50V
C3203	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3220	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3221	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3222	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3223	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V

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REF NO.	PART NO.	DESCRIPTION		REMARK	
C3224	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3225	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3226	1-126-964-11	ELECT	10UF	20.00%	50V
C3227	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3228	1-107-698-11	ELECT	10UF	20.00%	25V
C3229	1-107-698-11	ELECT	10UF	20.00%	25V
C3238	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3239	1-136-171-00	FILM	0.33UF	5.00%	50V
C3243	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3244	1-164-346-11	CERAMIC CHIP	1UF		16V
C3245	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3246	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3247	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3248	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3249	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3250	1-164-346-11	CERAMIC CHIP	1UF		16V
C3251	1-126-964-11	ELECT	10UF	20.00%	50V
C3252	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3253	1-126-933-11	ELECT	100UF	20.00%	16V
C3254	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3255	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3256	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3257	1-164-346-11	CERAMIC CHIP	1UF		16V
C3258	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3259	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3260	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3262	1-126-947-11	ELECT	47UF	20.00%	16V
C3264	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3301	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3302	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3303	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3304	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3305	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3306	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3307	1-104-665-11	ELECT	100UF	20.00%	25V
C3308	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3309	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C3310	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C3311	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3312	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3313	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3314	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3315	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3316	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3317	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3318	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3319	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C3320	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3321	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3322	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3323	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3324	1-126-964-11	ELECT	10UF	20.00%	50V
C3325	1-104-665-11	ELECT	100UF	20.00%	25V
C3326	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3327	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3328	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3329	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3330	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3331	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3332	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3333	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3334	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C3335	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C3336	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3337	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3338	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6200	1-216-295-91	SHORT CHIP	0		
C6202	1-128-550-11	ELECT	2200UF	20.00%	50V
C6203	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6204	1-128-550-11	ELECT	2200UF	20.00%	50V
C6205	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6206	1-128-550-11	ELECT	2200UF	20.00%	50V
C6209	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6210	1-126-924-11	ELECT	330UF	20.00%	10V
C6211	1-126-924-11	ELECT	330UF	20.00%	10V
C6212	1-126-947-11	ELECT	47UF	20.00%	25V
C6213	1-126-964-11	ELECT	10UF	20.00%	50V
C6217	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C6220	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6222	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6223	1-126-960-11	ELECT	1UF	20.00%	50V
C6241	1-126-964-11	ELECT	10UF	20.00%	50V
C6244	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C6245	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C6249	1-216-295-91	SHORT CHIP	0		

<CONNECTOR>

CN1300	*	1-564-506-11	PLUG, CONNECTOR 3P
CN1400	*	1-564-512-11	PLUG, CONNECTOR 9P
CN1401	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P
CN1403	*	1-564-506-11	PLUG, CONNECTOR 3P
CN1405	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN1406	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN1407	*	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P
CN1409		1-764-818-11	CONNECTOR, BOARD TO BOARD 10P
CN6200	*	1-564-507-11	PLUG, CONNECTOR 4P
CN6204	*	1-564-509-11	PLUG, CONNECTOR 6P
CN6206	*	1-564-508-11	PLUG, CONNECTOR 5P

<DIODE>

D1401	8-719-069-60	UDZSTE-179.1B
D1402	8-719-069-60	UDZSTE-179.1B
D1403	8-719-069-60	UDZSTE-179.1B
D1404	8-719-069-60	UDZSTE-179.1B
D1405	8-719-069-60	UDZSTE-179.1B
D1406	8-719-069-60	UDZSTE-179.1B
D1407	8-719-069-60	UDZSTE-179.1B
D1408	8-719-069-60	UDZSTE-179.1B
D1409	8-719-069-60	UDZSTE-179.1B
D1410	8-719-069-60	UDZSTE-179.1B
D1411	8-719-069-60	UDZSTE-179.1B
D1412	8-719-069-60	UDZSTE-179.1B
D1415	8-719-069-60	UDZSTE-179.1B
D1416	8-719-069-60	UDZSTE-179.1B
D1418	8-719-069-60	UDZSTE-179.1B
D3201	8-719-988-61	1SS355TE-17
D3203	8-719-988-61	1SS355TE-17
D3301	8-719-404-50	MA111-TX
D3302	8-719-404-50	MA111-TX
D6210	8-719-914-42	DA204K
D6211	8-719-404-50	MA111-TX
D6212	8-719-404-50	MA111-TX

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REF NO.	PART NO.	DESCRIPTION	REMARK
		<IC>	
IC1401	8-752-068-46	CXA1855S	
IC1402	8-759-100-96	UPC4558G2	
IC1404	8-759-701-59	NJM78M09FA	
IC3200	8-759-100-96	UPC4558G2	
IC3202	8-759-100-96	UPC4558G2	
IC3204	8-759-100-96	UPC4558G2	
IC3205	8-752-058-68	CXA1315M	
IC3301	8-759-711-10	NJU4066BM	
IC3302	6-702-145-01	IC NJW1139GK1-TE2	
IC6200	8-759-168-24	TA8200AH	
		<JACK>	
J1401	1-784-646-11	TERMINAL, S	
J1402	1-778-387-11	JACK BLOCK, PIN 12P	
		<CHIP CONDUCTOR>	
JR1301	1-216-295-91	SHORT CHIP 0	
JR1405	1-216-295-91	SHORT CHIP 0	
JR1406	1-216-295-91	SHORT CHIP 0	
JR1407	1-216-295-91	SHORT CHIP 0	
JR1409	1-216-295-91	SHORT CHIP 0	
JR1410	1-216-295-91	SHORT CHIP 0	
JR1411	1-216-295-91	SHORT CHIP 0	
JR3204	1-216-295-91	SHORT CHIP 0	
JR3209	1-216-295-91	SHORT CHIP 0	
JR6200	1-216-295-91	SHORT CHIP 0	
JR6202	1-216-295-91	SHORT CHIP 0	
JR6203	1-216-295-91	SHORT CHIP 0	
JR6204	1-216-295-91	SHORT CHIP 0	
JR6206	1-216-295-91	SHORT CHIP 0	
		<COIL>	
L1313	1-414-187-11	INDUCTOR 47UH	
L1314	1-414-856-11	INDUCTOR 10UH	
L1315	1-414-856-11	INDUCTOR 10UH	
L1317	1-414-856-11	INDUCTOR 10UH	
L1404	1-412-537-31	INDUCTOR 100UH	
L3202	1-414-856-11	INDUCTOR 10UH	
		<TRANSISTOR>	
Q1316	8-729-216-22	2SA1162-G	
Q1317	8-729-230-49	2SC2712-YG	
Q1318	8-729-230-49	2SC2712-YG	
Q1323	8-729-230-49	2SC2712-YG	
Q1324	8-729-230-49	2SC2712-YG	
Q1365	8-729-230-49	2SC2712-YG	
Q1372	8-729-230-49	2SC2712-YG	
Q1402	8-729-216-22	2SA1162-G	
Q1403	8-729-230-49	2SC2712-YG	
Q1404	8-729-230-49	2SC2712-YG	
Q1408	8-729-230-49	2SC2712-YG	
Q1409	8-729-230-49	2SC2712-YG	
Q3201	8-729-224-62	2SK246-GR	
Q3202	8-729-230-49	2SC2712-YG	
Q3203	8-729-230-49	2SC2712-YG	
Q3204	8-729-224-62	2SK246-GR	
Q6201	8-729-421-19	UN2213	
Q6203	8-729-421-19	UN2213	
Q6204	8-729-421-19	UN2213	
Q6208	8-729-421-19	UN2213	
		<RESISTOR>	
R1301	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1318	1-216-033-00	RES-CHIP 220 5% 1/10W	
R1320	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R1343	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R1344	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1345	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1346	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1347	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1350	1-216-085-91	RES-CHIP 33K 5% 1/10W	
R1359	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1360	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1361	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1362	1-216-055-00	RES-CHIP 1.8K 5% 1/10W	
R1363	1-216-033-00	RES-CHIP 220 5% 1/10W	
R1364	1-216-089-91	RES-CHIP 47K 5% 1/10W	
R1365	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R1366	1-216-295-91	SHORT CHIP 0	
R1368	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R1369	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1370	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1371	1-216-039-00	RES-CHIP 390 5% 1/10W	
R1372	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1397	1-216-045-00	RES-CHIP 680 5% 1/10W	
R1400	1-216-105-91	RES-CHIP 220K 5% 1/10W	
R1403	1-216-033-00	RES-CHIP 220 5% 1/10W	
R1404	1-216-295-91	SHORT CHIP 0	
R1406	1-216-013-00	RES-CHIP 33 5% 1/10W	
R1407	1-216-033-00	RES-CHIP 220 5% 1/10W	
R1408	1-216-031-00	RES-CHIP 180 5% 1/10W	
R1409	1-216-105-91	RES-CHIP 220K 5% 1/10W	
R1410	1-216-105-91	RES-CHIP 220K 5% 1/10W	
R1411	1-216-089-91	RES-CHIP 47K 5% 1/10W	
R1412	1-216-089-91	RES-CHIP 47K 5% 1/10W	
R1413	1-216-105-91	RES-CHIP 220K 5% 1/10W	
R1414	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1417	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1418	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1421	1-216-057-00	RES-CHIP 2.2K 5% 1/10W	
R1424	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R1425	1-216-047-91	RES-CHIP 820 5% 1/10W	
R1426	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1427	1-216-063-91	RES-CHIP 3.9K 5% 1/10W	
R1428	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1429	1-216-089-91	RES-CHIP 47K 5% 1/10W	
R1430	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1431	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1432	1-216-041-00	RES-CHIP 470 5% 1/10W	
R1433	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1435	1-216-022-00	RES-CHIP 75 5% 1/10W	
R1436	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1437	1-216-022-00	RES-CHIP 75 5% 1/10W	
R1438	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1439	1-216-017-91	RES-CHIP 47 5% 1/10W	
R1441	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1442	1-216-049-11	RES-CHIP 1K 5% 1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R1443	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1444	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1445	1-216-025-11	RES-CHIP	100	5%	1/10W
R1446	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1447	1-216-025-11	RES-CHIP	100	5%	1/10W
R1448	1-216-043-91	RES-CHIP	560	5%	1/10W
R1449	1-249-429-11	CARBON	10K	5%	1/4W
R1450	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1451	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1452	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1453	1-216-025-11	RES-CHIP	100	5%	1/10W
R1454	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1455	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1456	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1457	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1458	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1459	1-216-025-11	RES-CHIP	100	5%	1/10W
R1460	1-216-033-00	RES-CHIP	220	5%	1/10W
R1461	1-216-025-11	RES-CHIP	100	5%	1/10W
R1463	1-249-429-11	CARBON	10K	5%	1/4W
R1464	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1465	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1466	1-216-033-00	RES-CHIP	220	5%	1/10W
R1467	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1468	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1469	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1470	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1471	1-216-022-00	RES-CHIP	75	5%	1/10W
R1472	1-216-033-00	RES-CHIP	220	5%	1/10W
R1473	1-216-033-00	RES-CHIP	220	5%	1/10W
R1475	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1476	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1477	1-216-047-91	RES-CHIP	820	5%	1/10W
R1478	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R1479	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1480	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1481	1-216-022-00	RES-CHIP	75	5%	1/10W
R1483	1-216-025-11	RES-CHIP	100	5%	1/10W
R1484	1-216-025-11	RES-CHIP	100	5%	1/10W
R1485	1-216-025-11	RES-CHIP	100	5%	1/10W
R1486	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1487	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1488	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1489	1-216-022-00	RES-CHIP	75	5%	1/10W
R1490	1-216-025-11	RES-CHIP	100	5%	1/10W
R1491	1-216-025-11	RES-CHIP	100	5%	1/10W
R1492	1-216-021-00	RES-CHIP	68	5%	1/10W
R1493	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1496	1-216-041-00	RES-CHIP	470	5%	1/10W
R1497	1-216-041-00	RES-CHIP	470	5%	1/10W
R1498	1-216-025-11	RES-CHIP	100	5%	1/10W
R1499	1-216-025-11	RES-CHIP	100	5%	1/10W
R1500	1-216-025-11	RES-CHIP	100	5%	1/10W
R1501	1-216-045-00	RES-CHIP	680	5%	1/10W
R1503	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1504	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1505	1-216-022-00	RES-CHIP	75	5%	1/10W
R1506	1-216-033-00	RES-CHIP	220	5%	1/10W
R1507	1-216-025-11	RES-CHIP	100	5%	1/10W
R3200	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3201	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3202	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3203	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3204	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3205	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3206	1-216-039-00	RES-CHIP	390	5%	1/10W
R3207	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3219	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3220	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3221	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3222	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3223	1-216-045-00	RES-CHIP	680	5%	1/10W
R3224	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3229	1-216-025-11	RES-CHIP	100	5%	1/10W
R3230	1-216-025-11	RES-CHIP	100	5%	1/10W
R3231	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3232	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3233	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3234	1-216-039-00	RES-CHIP	390	5%	1/10W
R3235	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3236	1-216-113-00	RES-CHIP	470K	5%	1/10W
R3237	1-216-045-00	RES-CHIP	680	5%	1/10W
R3238	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3239	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3240	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3241	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3242	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3245	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3246	1-216-045-00	RES-CHIP	680	5%	1/10W
R3251	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3252	1-216-113-00	RES-CHIP	470K	5%	1/10W
R3253	1-216-045-00	RES-CHIP	680	5%	1/10W
R3254	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3255	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3256	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3257	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3258	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3259	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3262	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3263	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3267	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3268	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3269	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3271	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R3273	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3274	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R3301	1-216-079-00	RES-CHIP	18K	5%	1/10W
R3302	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3303	1-216-079-00	RES-CHIP	18K	5%	1/10W
R3304	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3305	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3306	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3307	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3308	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3309	1-216-025-11	RES-CHIP	100	5%	1/10W
R3310	1-216-025-11	RES-CHIP	100	5%	1/10W
R3311	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3312	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3313	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3314	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3315	1-216-295-91	SHORT CHIP	0		
R3318	1-216-295-91	SHORT CHIP	0		
R6201	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

C6

REF NO.	PART NO.	DESCRIPTION		REMARK	
R6202	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6203	1-216-295-91	SHORT CHIP	0		
R6209	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6219	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6245	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6246	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6254	1-216-021-00	RES-CHIP	68	5%	1/10W
R6255	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6258	1-216-021-00	RES-CHIP	68	5%	1/10W
R6259	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6278	1-216-295-91	SHORT CHIP	0		

****

* A-1401-876-A C6 BOARD MOUNTED
****

4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C701	1-115-350-51	CERAMIC	0.0047UF		2KV
C702	1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C708	1-102-114-00	CERAMIC	470PF	10.00%	50V
C709	1-102-114-00	CERAMIC	470PF	10.00%	50V
C710	1-102-114-00	CERAMIC	470PF	10.00%	50V
C712	1-102-115-00	CERAMIC	560PF	10.00%	50V
C713	1-102-112-00	CERAMIC	330PF	10.00%	50V
C714	1-102-112-00	CERAMIC	330PF	10.00%	50V
C716	1-126-933-11	ELECT	100UF	20.00%	16V
C717	1-107-651-11	ELECT	4.7UF	20.00%	250V
C718	1-102-106-00	CERAMIC	100PF	10.00%	50V
C1800	1-126-964-11	ELECT	10UF	20.00%	50V
C1803	1-126-964-11	ELECT	10UF	20.00%	50V
C1804	1-126-964-11	ELECT	10UF	20.00%	50V
C1809	1-126-942-61	ELECT	1000UF	20.00%	25V
C1810	1-102-106-00	CERAMIC	100PF	10.00%	50V

<CONNECTOR>

CN700		1-695-915-11	TAB (CONTACT)
CN702		1-695-915-11	TAB (CONTACT)
CN703	*	1-564-509-11	PLUG, CONNECTOR 6P
CN704		1-695-915-11	TAB (CONTACT)
CN712		1-564-507-11	PLUG, CONNECTOR 4P
CN1801	*	1-564-509-11	PLUG, CONNECTOR 6P
CN1802	*	1-564-506-11	PLUG, CONNECTOR 3P

<DIODE>

D701	8-719-911-19	1SS119-25	
D702	8-719-911-19	1SS119-25	
D703	8-719-911-19	1SS119-25	
D704	8-719-911-19	1SS119-25	
D705	8-719-911-19	1SS119-25	
D706	8-719-911-19	1SS119-25	
D707	8-719-911-19	1SS119-25	
D708	8-719-911-19	1SS119-25	
D709	8-719-911-19	1SS119-25	
D710	8-719-911-19	1SS119-25	
D711	8-719-911-19	1SS119-25	
D712	8-719-911-19	1SS119-25	
D716	8-719-911-19	1SS119-25	
D717	8-719-070-16	NNCD9.1A-T1	
D1803	8-719-911-19	1SS119-25	
D1804	8-719-911-19	1SS119-25	
D1808	8-719-908-03	GP08D	

<IC>

IC1800	8-759-822-38	LA6510

<JACK>

J701	⚠	1-540-071-22	SOCKET, CRT

<COIL>

L701	1-410-667-31	INDUCTOR	22UH
L703	1-414-186-31	INDUCTOR	33UH
L705	1-414-186-31	INDUCTOR	33UH
L707	1-414-187-11	INDUCTOR	47UH

<TRANSISTOR>

Q701	8-729-326-11	2SC2611
Q702	8-729-326-11	2SC2611
Q703	8-729-326-11	2SC2611
Q704	8-729-326-11	2SC2611
Q705	8-729-326-11	2SC2611
Q706	8-729-326-11	2SC2611
Q707	8-729-200-17	2SA1091-O
Q708	8-729-200-17	2SA1091-O
Q709	8-729-200-17	2SA1091-O
Q710	8-729-119-78	2SC2785-HFE
Q711	8-729-119-78	2SC2785-HFE
Q712	8-729-119-78	2SC2785-HFE
Q714	8-729-255-12	2SC2551-O
Q1800	8-729-119-76	2SA1175-HFE
Q1802	8-729-119-78	2SC2785-HFE

<RESISTOR>

R701	1-219-752-11	METAL	100K	5%	1/2W
R705	1-243-510-21	METAL OXIDE	1.8	5%	3W
R710	1-243-618-21	METAL OXIDE	10K	5%	3W
R711	1-260-328-11	CARBON	1K	5%	1/2W
R712	1-243-618-21	METAL OXIDE	10K	5%	3W
R713	1-260-330-11	CARBON	1.5K	5%	1/2W
R714	1-243-618-21	METAL OXIDE	10K	5%	3W
R715	1-260-330-11	CARBON	1.5K	5%	1/2W
R716	1-249-405-11	CARBON	100	5%	1/4W
R717	1-249-405-11	CARBON	100	5%	1/4W
R718	1-249-405-11	CARBON	100	5%	1/4W
R719	1-215-469-00	METAL	100K	1%	1/4W
R720	1-249-923-11	CARBON	1K	5%	1/4W
R722	1-249-923-11	CARBON	1K	5%	1/4W
R723	1-215-469-00	METAL	100K	1%	1/4W
R724	1-249-923-11	CARBON	1K	5%	1/4W
R725	1-249-424-11	CARBON	3.9K	5%	1/4W
R726	1-249-424-11	CARBON	3.9K	5%	1/4W

C6 D3

REF NO.	PART NO.	DESCRIPTION			REMARK
R727	1-249-424-11	CARBON	3.9K	5%	1/4W
R728	1-249-408-11	CARBON	180	5%	1/4W
R729	1-249-408-11	CARBON	180	5%	1/4W
R730	1-249-408-11	CARBON	180	5%	1/4W
R731	1-249-401-11	CARBON	47	5%	1/4W
R732	1-249-401-11	CARBON	47	5%	1/4W
R733	1-249-401-11	CARBON	47	5%	1/4W
R734	1-219-743-11	METAL	100	5%	1/2W
R738	1-247-807-31	CARBON	100	5%	1/4W
R739	1-247-807-31	CARBON	100	5%	1/4W
R740	1-247-807-31	CARBON	100	5%	1/4W
R747	1-215-926-00	METAL OXIDE	33K	5%	3W
R749	1-215-927-00	METAL OXIDE	47K	5%	3W
R751	1-215-926-00	METAL OXIDE	33K	5%	3W
R753	1-249-429-11	CARBON	10K	5%	1/4W
R755	1-249-427-11	CARBON	6.8K	5%	1/4W
R756	1-249-427-11	CARBON	6.8K	5%	1/4W
R757	1-249-427-11	CARBON	6.8K	5%	1/4W
R758	1-249-419-11	CARBON	1.5K	5%	1/4W
R759	1-249-419-11	CARBON	1.5K	5%	1/4W
R760	1-249-419-11	CARBON	1.5K	5%	1/4W
R1800	1-249-417-11	CARBON	1K	5%	1/4W
R1801	1-249-426-11	CARBON	5.6K	5%	1/4W
R1802	1-249-382-11	CARBON	1.2	5%	1/4W
R1803	1-249-382-11	CARBON	1.2	5%	1/4W
R1805	1-249-429-11	CARBON	10K	5%	1/4W
R1806	1-249-425-11	CARBON	4.7K	5%	1/4W
R1808	1-249-425-11	CARBON	4.7K	5%	1/4W
R1809	1-249-435-11	CARBON	33K	5%	1/4W
R1810	1-249-435-11	CARBON	33K	5%	1/4W
R1811	1-249-433-11	CARBON	22K	5%	1/4W
R1812	1-249-435-11	CARBON	33K	5%	1/4W
R1821	1-249-433-11	CARBON	22K	5%	1/4W
R1822	1-249-435-11	CARBON	33K	5%	1/4W
R1823	1-249-426-11	CARBON	5.6K	5%	1/4W
R1824	1-249-435-11	CARBON	33K	5%	1/4W
R1825	1-247-843-11	CARBON	3.3K	5%	1/4W

<VARIABLE RESISTOR>

RV702	1-241-656-11	RES, ADJ, METAL FILM 110M
RV1801	1-238-019-11	RES, ADJ, CARBON 47K

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*	A-1401-875-A	D3 BOARD MOUNTED

****

<CAPACITOR>

C2800	1-126-947-11	ELECT	47UF	20.00%	25V
C2801	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C2802	1-136-155-00	FILM	0.015UF	5.00%	50V
C2803	1-129-723-00	FILM	0.056UF	5.00%	630V
C2805	1-126-947-11	ELECT	47UF	20.00%	25V
C2806	1-106-383-00	MYLAR	0.047UF	5.00%	100V
C2807	1-137-194-81	FILM	0.47UF	5.00%	50V
C2808	1-126-964-11	ELECT	10UF	20.00%	50V
C2809	1-137-194-81	FILM	0.47UF	5.00%	50V
C2810	1-106-375-12	MYLAR	0.022UF	10.00%	250V
C2811	1-126-964-11	ELECT	10UF	20.00%	50V
C2812	1-126-964-11	ELECT	10UF	20.00%	50V
C2813	1-129-708-91	FILM	0.0033UF	5.00%	630V

<CONNECTOR>

CN2800	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN2802	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN2803	1-695-915-11	TAB (CONTACT)	

<DIODE>

D2800	8-719-302-43	EL1Z
D2801	8-719-911-19	1SS119-25
D2802	8-719-911-19	1SS119-25
D2803	8-719-911-19	1SS119-25

<IC>

IC2800	8-759-701-59	NJM78M09FA
IC2801	8-759-998-98	LM358D

<COIL>

L2800	1-406-989-71	INDUCTOR	0UH
L2802	1-406-987-21	INDUCTOR	4.7MH
L2803	1-406-986-21	INDUCTOR	3.3MH
L2804	1-406-678-11	INDUCTOR	15MH

<TRANSISTOR>

Q2800	8-729-119-78	2SC2785-HFE
Q2801	8-729-195-82	2SC2958
Q2802	8-729-017-06	2SC4793
Q2803	8-729-216-22	2SA1162-G
Q2804	8-729-010-25	MSD601-RT1

<RESISTOR>

R2800	1-249-405-11	CARBON	100	5%	1/4W
R2802	1-260-111-11	CARBON	10K	5%	1/2W
R2803	1-260-111-11	CARBON	10K	5%	1/2W
R2804	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R2805	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2806	1-249-421-11	CARBON	2.2K	5%	1/4W
R2807	1-249-420-11	CARBON	1.8K	5%	1/4W
R2808	1-215-857-71	METAL OXIDE	10	5%	1W
R2809	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R2810	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2811	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2812	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2813	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R2814	1-216-121-11	RES-CHIP	1M	5%	1/10W
R2815	1-216-085-91	RES-CHIP	33K	5%	1/10W
R2816	1-216-107-00	RES-CHIP	270K	5%	1/10W
R2817	1-216-107-00	RES-CHIP	270K	5%	1/10W

<TRANSFORMER>

T2800	1-413-059-00	TRANSFORMER, FERRITE (DFT)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

F H1 H2

REF NO.		PART NO.	DESCRIPTION			
**********						
	*	A-1241-456-A	F BOARD MOUNTED			
			**********			
		1-533-223-11	FUSE HOLDER		0A	0V
			<CAPACITOR>			
C654	⚠	1-117-703-51	CERAMIC	0.0047UF	99%	250V
C4601	⚠	1-113-511-11	MYLAR	0.47UF	20.00%	250V
C4602	⚠	1-113-512-11	MYLAR	0.68UF	20.00%	250V
			<CONNECTOR>			
CN4601	*	1-580-843-11	PIN, CONNECTOR (POWER)			
CN4602	*	1-580-843-11	PIN, CONNECTOR (POWER)			
CN4603		1-695-915-11	TAB (CONTACT)			
			<FUSE>			
F4601	⚠	1-576-334-11	FUSE		5A	250V 5A/
			<RESISTOR>			
R4601	⚠	1-219-759-91	METAL	1M	5%	1/2W
			<TRANSFORMER>			
T4601	⚠	1-429-707-12	TRANSFORMER, LINE FILTER			
T4602	⚠	1-435-214-11	TRANSFORMER, LINE FILTER			
**********						
	*	A-1400-972-A	H1 BOARD MOUNTED			
			**********			
			<CAPACITOR>			
C3900		1-136-153-00	FILM	0.01UF	5.00%	50V
C3902		1-136-153-00	FILM	0.01UF	5.00%	50V
C3904		1-126-947-11	ELECT	47UF	20.00%	25V
C3905		1-126-963-11	ELECT	4.7UF	20.00%	50V
C3906		1-126-963-11	ELECT	4.7UF	20.00%	50V
C3910		1-126-947-11	ELECT	47UF	20.00%	16V
C3911		1-126-947-11	ELECT	47UF	20.00%	16V
C3913		1-126-960-11	ELECT	1UF	20.00%	50V
			<CONNECTOR>			
CN3901	*	1-564-507-11	PLUG, CONNECTOR 4P			
CN3902		1-564-509-11	PLUG, CONNECTOR 6P			
CN3904	*	1-564-512-11	PLUG, CONNECTOR 9P			
CN3905	*	1-564-512-11	PLUG, CONNECTOR 9P			
CN3907	*	1-564-521-11	PLUG, CONNECTOR 6P			
			<DIODE>			
D3900		8-719-070-16	NNCD9.1A-T1			
D3901		8-719-070-16	NNCD9.1A-T1			
D3905		8-719-070-16	NNCD9.1A-T1			
D3907		8-719-070-16	NNCD9.1A-T1			
D3908		8-719-070-16	NNCD9.1A-T1			
			<JACK>			
J3901		1-750-264-11	JACK			
J3902		1-784-646-11	TERMINAL, S			
J3903		1-770-329-13	JACK, PIN 3P			
			<COIL>			
L3901		1-414-183-41	INDUCTOR	10UH		
L3902		1-414-183-41	INDUCTOR	10UH		
			<TRANSISTOR>			
Q3901		8-729-030-02	DTC144ESA			
Q3902		8-729-030-02	DTC144ESA			
			<RESISTOR>			
R3900		1-249-411-11	CARBON	330	5%	1/4W
R3901		1-249-411-11	CARBON	330	5%	1/4W
R3902		1-247-804-11	CARBON	75	5%	1/4W
R3904		1-249-429-11	CARBON	10K	5%	1/4W
R3905		1-249-429-11	CARBON	10K	5%	1/4W
R3907		1-249-426-11	CARBON	5.6K	5%	1/4W
R3908		1-249-413-11	CARBON	470	5%	1/4W
R3909		1-249-417-11	CARBON	1K	5%	1/4W
R3910		1-249-420-11	CARBON	1.8K	5%	1/4W
R3911		1-249-411-11	CARBON	330	5%	1/4W
R3912		1-247-843-11	CARBON	3.3K	5%	1/4W
R3913		1-249-429-11	CARBON	10K	5%	1/4W
R3914		1-249-411-11	CARBON	330	5%	1/4W
R3915		1-249-429-11	CARBON	10K	5%	1/4W
R3916		1-249-401-11	CARBON	47	5%	1/4W
R3917		1-247-804-11	CARBON	75	5%	1/4W
R3918		1-247-807-31	CARBON	100	5%	1/4W
R3919		1-249-409-11	CARBON	220	5%	1/4W
R3920		1-247-807-31	CARBON	100	5%	1/4W
R3921		1-247-807-31	CARBON	100	5%	1/4W
R3922		1-249-421-11	CARBON	2.2K	5%	1/4W
			<SWITCH>			
S3902		1-692-431-21	SWITCH, TACTILE			
S3903		1-692-431-21	SWITCH, TACTILE			
S3904		1-692-431-21	SWITCH, TACTILE			
S3905		1-692-431-21	SWITCH, TACTILE			
S3906		1-692-431-21	SWITCH, TACTILE			
S3907		1-692-431-21	SWITCH, TACTILE			
S3908		1-692-431-21	SWITCH, TACTILE			

H2 J VM1

REF NO.		PART NO.	DESCRIPTION			
**********						
	*	A-1400-973-A	H2 BOARD MOUNTED			
			**********			
	*	4-055-304-01	HOLDER, LED			
			<CAPACITOR>			
C3912		1-102-114-00	CERAMIC	470PF	10.00%	50V
			<CONNECTOR>			
CN3601	*	1-580-844-11	PIN, CONNECTOR (POWER)			
CN3602	*	1-580-844-11	PIN, CONNECTOR (POWER)			
CN3603	*	1-564-521-11	PLUG, CONNECTOR 6P			
			<DIODE>			
D3906		8-719-083-18	DIODE SPB-25MVWF			
			<IC>			
IC3901		6-600-129-01	IC RPM7140-H5			
			<SWITCH>			
S3601	⚠	1-580-844-11	SWITCH, PUSH (AC POWER)			
**********						
	*	A-1400-975-A	J BOARD MOUNTED			
			**********			
			<CAPACITOR>			
C2410		1-126-967-11	ELECT	47UF	20.00%	50V
C2411		1-126-967-11	ELECT	47UF	20.00%	50V
C2412		1-126-967-11	ELECT	47UF	20.00%	50V
C2413		1-102-112-00	CERAMIC	330PF	10.00%	50V
C2414		1-102-112-00	CERAMIC	330PF	10.00%	50V
C2418		1-126-960-11	ELECT	1UF	20.00%	50V
C2419		1-126-960-11	ELECT	1UF	20.00%	50V
			<CONNECTOR>			
CN2410	*	1-564-523-11	PLUG, CONNECTOR 8P			
			<DIODE>			
D2410		8-719-070-16	NNCD9.1A-T1			
D2411		8-719-070-16	NNCD9.1A-T1			
D2412		8-719-070-16	NNCD9.1A-T1			
D2414		8-719-070-16	NNCD9.1A-T1			
D2415		8-719-070-16	NNCD9.1A-T1			
			<JACK>			
J2410		1-784-623-11	BLOCK, PIN JACK 5P			

REF NO.		PART NO.	DESCRIPTION			
			<RESISTOR>			
R2410		1-247-804-11	CARBON	75	5%	1/4W
R2411		1-247-804-11	CARBON	75	5%	1/4W
R2412		1-247-804-11	CARBON	75	5%	1/4W
R2414		1-247-887-00	CARBON	220K	5%	1/4W
R2415		1-247-807-31	CARBON	100	5%	1/4W
R2417		1-247-887-00	CARBON	220K	5%	1/4W
R2418		1-247-807-31	CARBON	100	5%	1/4W
R2419		1-249-409-11	CARBON	220	5%	1/4W
R2420		1-249-409-11	CARBON	220	5%	1/4W
R2421		1-249-409-11	CARBON	220	5%	1/4W
**********						
	*	A-1401-877-A	VM1 BOARD MOUNTED			
			**********			
		4-382-854-11	SCREW (M3X10), P, SW (+)			
			<CAPACITOR>			
C5900		1-102-115-00	CERAMIC	560PF	10.00%	50V
C5902		1-104-661-91	ELECT	330UF	20.00%	16V
C5903		1-161-830-00	CERAMIC	0.0047UF		500V
C5905		1-126-935-11	ELECT	470UF	20.00%	10V
C5906		1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5907		1-107-638-11	ELECT	33UF	20.00%	160V
C5908		1-106-383-00	MYLAR	0.047UF	10.00%	200V
C5909		1-126-933-11	ELECT	100UF	20.00%	16V
C5910		1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5911		1-107-949-11	ELECT	2.2UF	20.00%	160V
C5912		1-104-999-11	MYLAR	0.1UF	10.00%	200V
C5913		1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5914		1-126-933-11	ELECT	100UF	20.00%	16V
C5916		1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5917		1-126-935-11	ELECT	470UF	20.00%	10V
C5918		1-102-244-00	CERAMIC	220PF	10.00%	500V
C5919		1-136-165-00	FILM	0.1UF	5.00%	50V
			<CONNECTOR>			
CN2801	*	1-564-506-11	PLUG, CONNECTOR 3P			
CN5901	*	1-564-510-11	PLUG, CONNECTOR 7P			
CN5904	*	1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
			<DIODE>			
D5901		8-719-911-19	1SS119-25			
D5902		8-719-110-86	RD39ES-B			
D5903		8-719-911-19	1SS119-25			
D5904		8-719-110-86	RD39ES-B			
D5905		8-719-911-19	1SS119-25			
D5906		1-249-406-11	CARBON	120	5%	1/4W
D5907		1-249-406-11	CARBON	120	5%	1/4W
			<COIL>			
L5901		1-414-187-11	INDUCTOR	47UH		

VM1

REF NO.	PART NO.	DESCRIPTION			REMARK
		<TRANSISTOR>			
Q5901	8-729-230-45	2SC2458-YGR			
Q5902	8-729-809-26	2SA1606-E			
Q5903	8-729-230-45	2SC2458-YGR			
Q5904	8-729-119-76	2SA1175-HFE			
Q5905	8-729-230-45	2SC2458-YGR			
Q5906	8-729-809-29	2SC4159-E			
Q5907	8-729-230-45	2SC2458-YGR			
		<RESISTOR>			
R5901	1-249-401-11	CARBON	47	5%	1/4W
R5902	1-249-414-11	CARBON	560	5%	1/4W
R5903	1-247-734-11	CARBON	39	5%	1/2W
R5904	1-249-411-11	CARBON	330	5%	1/4W
R5905	1-249-417-11	CARBON	1K	5%	1/4W
R5906	1-249-417-11	CARBON	1K	5%	1/4W
R5907	1-249-417-11	CARBON	1K	5%	1/4W
R5908	1-249-383-11	CARBON	1.5	5%	1/4W
R5909	1-249-409-11	CARBON	220	5%	1/4W
R5910	1-249-403-11	CARBON	68	5%	1/4W
R5911	1-249-439-11	CARBON	68K	5%	1/4W
R5912	1-249-437-11	CARBON	47K	5%	1/4W
R5914	1-249-403-11	CARBON	68	5%	1/4W
R5915	1-249-429-11	CARBON	10K	5%	1/4W
R5916	1-249-419-11	CARBON	1.5K	5%	1/4W
R5917	1-249-416-11	CARBON	820	5%	1/4W
R5918	1-249-429-11	CARBON	10K	5%	1/4W
R5919	1-249-417-11	CARBON	1K	5%	1/4W
R5920	1-249-439-11	CARBON	68K	5%	1/4W
R5921	1-216-476-11	METAL OXIDE	180	5%	3W
R5922	1-249-414-11	CARBON	560	5%	1/4W
R5923	1-249-383-11	CARBON	1.5	5%	1/4W
R5925	1-249-400-11	CARBON	39	5%	1/4W
R5927	1-249-416-11	CARBON	820	5%	1/4W
R5929	1-215-880-00	METAL OXIDE	10	5%	2W

REF NO.	PART NO.	DESCRIPTION
		ACCESSORIES AND PACKING MATERIALS
	3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)
*	4-029-168-01	BAG, PROTECTION
*	4-054-319-01	TRAY
	4-065-210-01	JOINT
*	4-089-237-01	CUSHION (UPPER)
*	4-089-238-01	CUSHION (LOWER)
*	4-090-835-01	INDIVIDUAL CARTON
	4-092-071-11	MANUAL, INSTRUCTION
	4-392-003-11	BAND, HOLD
	4-392-004-11	CLIP
		BATTERY COVER REMOTE COMMANDER
	1-477-490-11	REMOTE COMMANDER (RM-996)
	4-079-833-01	BATTERY COVER REMOTE COMMANDER (RM-996)

Sony Corporation
Sony Technology Malaysia Sdn. Bhd.
Visual Products

9-872-348-01

English
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SONY

4-092-071-**11** (2)

Trinitron Color TV

사용설명서

- 조작을 시작하기전에 본 사용설명서를 잘 읽고난 다음, 향 후의 참고자료로 잘 보관하십시오.

FD Trinitron WEGA

KV-AR29

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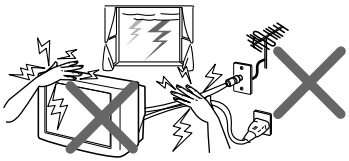
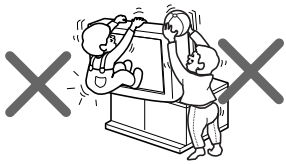
K90

경고

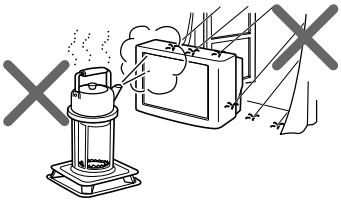
- TV 내부에는 위험한 고전압 물질이 있으므로 전기 충격을 받지 않도록 주의하시기 바랍니다.
- TV 사용 전압: 110-220 V AC.
- 모든 연결을 완료할 때 까지 전원코드를 꽂지 말아주십시오; 소량의 전력이 안테나와 다른 단자들을 통해 접지로 흐를 염려가 있습니다.
- 수 일 동안 사용하지 않을 경우에는, 건전지의 누출이나 리모콘의 손상을 방지하기 위하여 리모콘의 건전지를 제거하여 주십시오. 만약 건전지의 누출액이 신체에 묻을 경우에는 즉시 물에 씻으십시오.



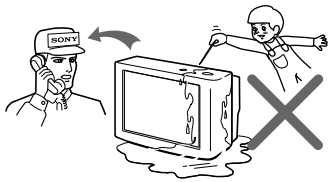
번개가 칠때는 전기 충격을 방지하기 위해 TV 나 전원 코드 또는 안테나선을 만지지 마십시오.



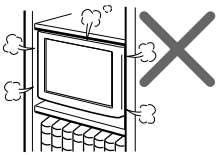
안전을 위하여 어린이를 TV 앞에 혼자 두지 마시기 바라며, 어린이가 올라가지 못하도록 하십시오.



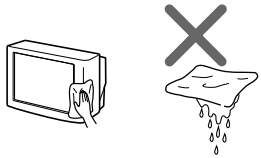
전기 충격이나 화재를 방지하기 위해 TV 가 습기나 비에 노출되게 하지 마십시오.



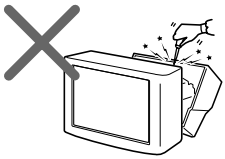
액체나 이물질이 TV의 내부에 들어갔을 경우에는, TV 의 전원을 콘센트에서 즉시 제거한 다음 전문 서비스 요원을 불러 TV 를 체크하도록 하십시오.



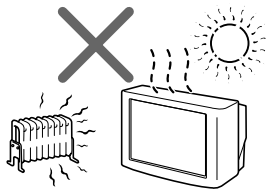
TV 의 통풍구를 막거나 천 등으로 덮지 마십시오. TV 를 책장이나 붙박이 케비넷과 같은 한정된 공간에 설치하지 마십시오.



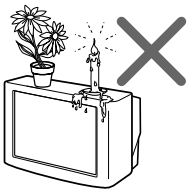
TV 를 청소할 때는 부드러운 마른 천으로 닦아 주십시오. 벤젠, 희석제 또는 일반 세정제는 사용하시 마십시오. 윈 상태의 TV 캐비 넷의 표면이 손상 될 염려가 있으므로 은색 페인트가 된 부분에 이물질 (예 접 착 테이프, 셀로펀테이프, 접착본드 등)화면이 긁히지 않도록 주의하십시오.



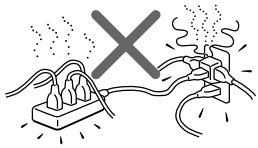
TV 내부에는 고압 전류가 흐르고 위험 물질이 있으므로 캐비넷이나 TV 의 후면 커버를 열지 마십시오. 서비스나 폐기 처분은 전문인에게 맡겨 주십시오.



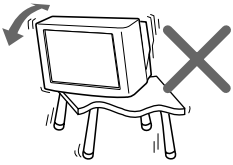
본 TV 는 가정용 입니다. 본TV 를 자동차나 지나치게 먼지가 많거나 고열, 습기 또는 진동이 심한 장소에서 사용하지 마십시오.



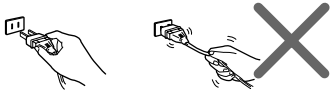
TV에 물건을 올려 놓지 마십시오.



너무 많은 전기용품을 한 소케트에 같이 꽂지 마십시오. 전원 코드가 손상되지 않도록 주의하십시오.



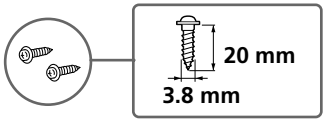
TV를 안정된 TV 스탠드에 설치 하시고, 바닥은 TV 무게를 지탱할 수 있어야 합니다. TV 스탠드 상단은 반드시 평평해야 하며, TV 본체 하단 부분보다 면적이 더 넓어야 합나다.



전원 코드를 뽑을 때는 코드를 잡아 당기지 말고, 반드시 플러그 부분을 잡고 뽑으십시오. TV의 전원이 꺼져 있더라도, 전원코드가 꽂혀 있는 동안은 (주)전원 공급원에 계속해서 연결이 되어 있습니다. TV를 이동할 때나 장기간 동안 사용하지 않을 때에는 플러그를 뽑아 주십시오.

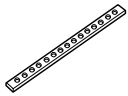
■ TV 안전 점검하기

TV가 떨어지지 않도록 제공된 나사와 죔쇠 및 밴드를 사용하여 TV를 고정시키십시오.

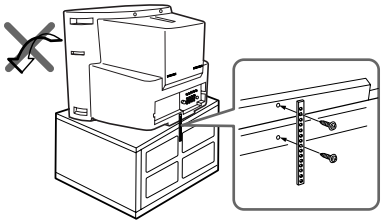


나사

죔쇠

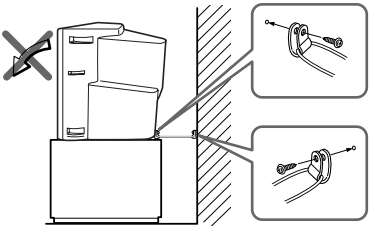


밴드



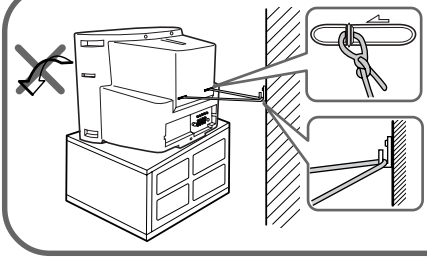
나사를 사용하여 TV 스탠드와 TV 뒷면에 나있는 구멍에 밴드를 고정시키십시오.

또는



(1) 죔쇠에 코드나 고리줄을 끼우십시오.
(2) 벽이나 기둥에 한쪽의 죔쇠를 고정시키고 나머지 한 쪽의 죔쇠를 TV 뒷면에 나있는 구멍에 고정시키십시오.

또는



(1) 코드나 고리줄의 양쪽 끝을 TV 뒷면의 홀더에 부착시키십시오.
(2) 부착된 코드나 고리줄을 TV 세트의 무게를 지탱할 수 있는 장치를 사용하여 벽이나 기둥에 단단히 고정시키십시오.

알아둡시다

- 반드시 제공된 나사를 사용하십시오. 다른 종류의 나사를 사용하면 TV가 훼손될 수도 있습니다.

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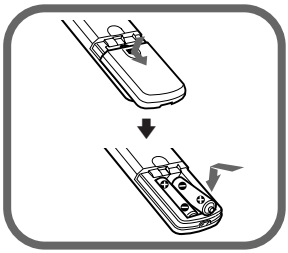
■ 연결하기

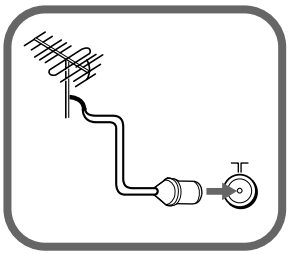


1 단계

리모콘에 건전지를 삽입하십시오 (제곰)

알아둡시다

- 오래된 건전지나 서로 다른 종류의 건전지를 함께 사용하지 마십시오.

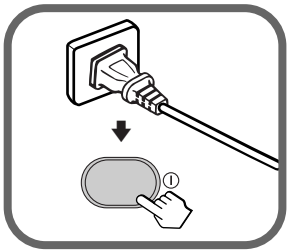


2 단계

안테나 케이블(별매)을 TV 뒷면의 ╥ (안테나 입력)에 연결하십시오.

도움말

- TV 를 다른 외부기기에 연결할 수도 있습니다 (25 페이지 참조).



3 단계

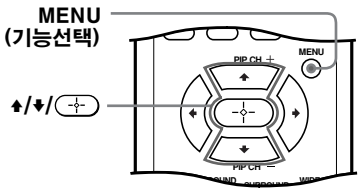
전원을 켜려면 전원코드를 꽂은 후 TV의 ⏻ 를 누르십시오.

4 단계

"초기 설정" 메뉴의 절차에 따라 TV 를 설정하십시오 (7 페이지 참조).

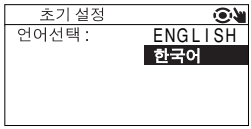
■ TV 설정하기 ("초기 설정")

TV 를 처음 켜시면, "초기 설정" 메뉴가 나타납니다.
본 메뉴는 메뉴의 언어를 선택할 수 있게 하고, 화면의 위치를 조정할 수 있게 하며 TV 채널을 자동 설정할 수 있게 합니다.



1 **↑ 또는 ↓ 를 눌러 원하는 언어를 선택한 다음 (예: "한국어"), ⊕ 를 누릅니다.**

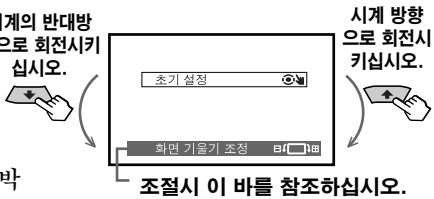
선택된 메뉴 언어가 나타납니다.



2 **"화면 기울기 조정" 바가 기울어진 경우, ↑ 또는 ↓ 를 눌러 올바로 조절한 다음 ⊕ 를 누르십시오.**

조절할 필요가 없는 경우에는, ⊕ 를 누르십시오.

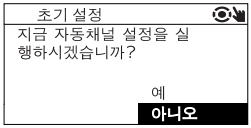
조절중 화면의 ⊞ 또는 ⊟ 아이콘이 깜박입니다.



3 **↑ 또는 ↓ 를 눌러 "예", ⊕ 를 선택한 후 누르면 채널이 자동으로 사전설정됩니다 (24 페이지 참조).**

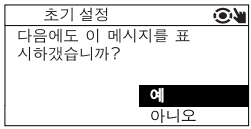
화면에 자동 사전설정 과정이 진행중임이 표시됩니다.

채널 자동사전설정을 건너뛰려면, "아니오" ⊕ 를 선택한 후 누르십시오.



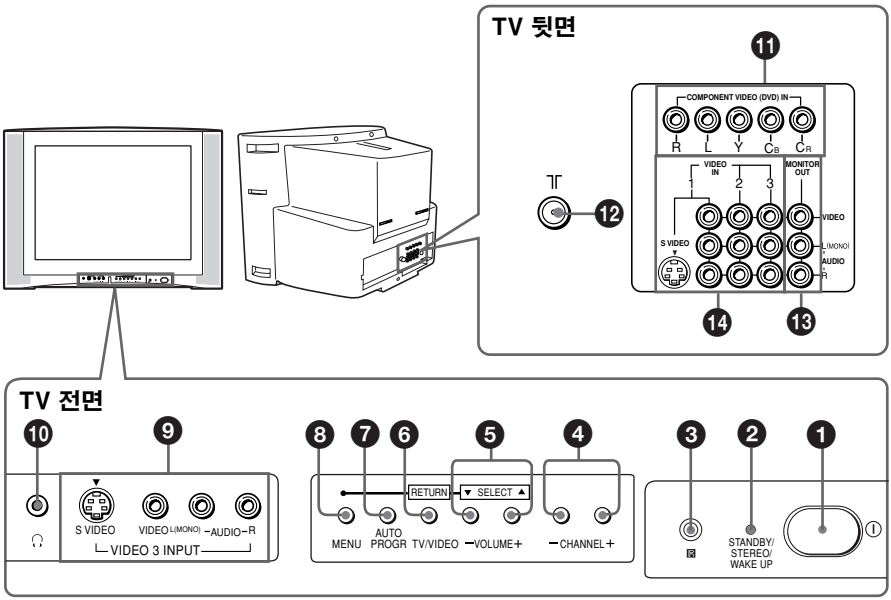
4 **↑ 또는 ↓ 를 눌러 "아니오" 를 선택한 후 누르십시오. ⊕ 를 눌러 다음에 TV ⏻ 를 다시 켤 때 "초기 설정" 메뉴가 다시 나타나지 않게 됩니다.**

이 메뉴가 다시 나타나게 하려면, "예" ⊕ 를 선택한 후 누르십시오.



도움말
- MENU (기능선택) 를 누르면 "초기 설정" 메뉴의 끝으로 곧바로 이동합니다.
- 메뉴시스템을 사용하여 TV 를 설정할 수도 있습니다 (15 페이지 참조).

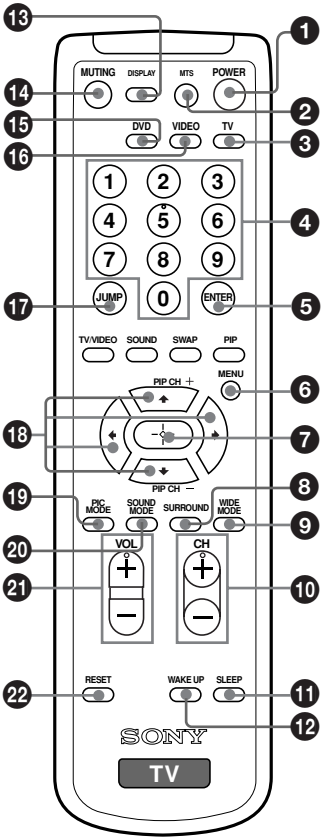
■ TV 전면 및 후면패널



버튼/단자	기능	페이지
❶ ⏻	TV 의 전원을 완전히 끄거나 켭니다.	6
❷ STANDBY	스탠바이 표시등.	–
❷ WAKE UP	알람 표시등.	13
❷ STEREO	스테레오/음성다중 표시등.	14
❸ 🅁	원격조정센서.	–
❹ CHANNEL +/–	채널 번호를 선택하십시오.	–
❺ VOLUME +/–	음량을 조절합니다.	–
❻ TV/VIDEO	TV 또는 비디오 입력을 선택합니다.	–
❼ AUTO PROGR	채널을 자동으로 사전설정합니다.	–
메뉴 조작		
❺ SELECT ▼/▲	항목을 선택 및 조절합니다.	17
❻ RETURN	선택된 항목을 확인합니다.	17
❽ MENU	메뉴를 디스플레이합니다.	17
❾ VIDEO 3 INPUT	비디오 입력단자 3.	25
❿ 🎧	헤드폰 잭.	–
⓫ COMPONENT VIDEO (DVD) IN	컴포넌트 비디오 입력단자.	26
⓬ ⊤	안테나 입력단자.	25
⓭ MONITOR OUT	모니터 출력 터미널.	25
⓮ VIDEO IN 1, 2, 3	비디오 입력단자 1, 2, 3.	25

■ 리모콘

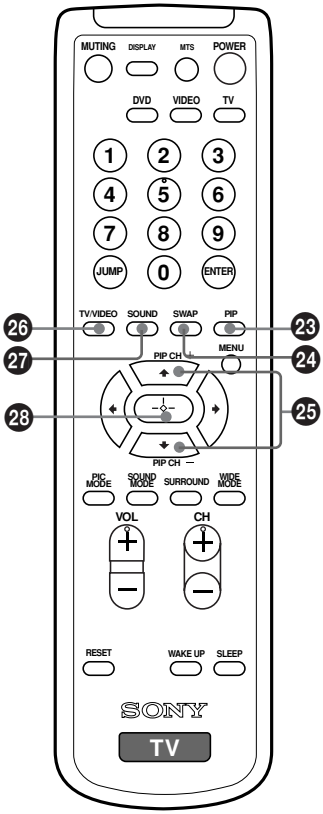
본 제품은 한글 표기 리모콘이 제공되므로, 소비자가 원하실 경우 한글 리모콘 플레이트 뒷면의 접착테이프를 떼어 영문 리모콘 위에 부착하여 사용하십시오.



버튼	기능	페이지
❶ POWER **(전원)**	TV 를 일시적으로 끄거나 킵니다.	–
❷ MTS **(음성다중)**	스테레오/음성다중 모드를 선택합니다.	14
❸ TV	TV 프로그램이 디스플레이 됩니다.	–
❹ 0 – 9	숫자를 입력합니다.	–
❺ ENTER **(입력)**	입력한 숫자를 실행시킵니다.	–
❽ SURROUND **(써라운드 모드)**	써라운드 모드를 선택합니다.	12
❾ WIDE MODE **(와이드 모드)**	와이드 모드(16:9) 를 선택합니다.	12
❿ CH +/– **(채널 +/–)**	프로그램 번호를 선택합니다.	–
⓭ DISPLAY **(화면표시)**	화면상의 정보를 디스플레이 합니다.	–
⓮ MUTING **(조용히)**	음성을 일시적으로 소거합니다.	–
⓯ DVD	컴포넌트 비디오 입력을 선택합니다.	26
⓰ VIDEO **(비디오)**	TV 또는 비디오 입력을 선택합니다.	25
⓱ JUMP **(이전채널)**	이전 채널번호로 건너뜁니다.	–
⓳ PIC MODE **(화면모드)**	화면 모드를 선택합니다.	11
⓴ SOUND MODE **(음향모드)**	음향 모드를 선택합니다.	11
㉑ VOL +/– **(음량 +/–)**	음량을 조절합니다.	–
㉒ RESET **(재설정)**	TV 를 공장출하 상태로 설정 합니다.	27
타이머 조작		
⓫ SLEEP **(취침예약)**	TV 가 자동으로 꺼지도록 설정합니다.	13
⓬ WAKE UP **(기상예약)**	TV 가 자동으로 켜지도록 설정합니다.	13
메뉴 조작		
❻ MENU **(기능선택)**	메뉴를 디스플레이하거나 취소시킵니다.	17
❼ ⊹	선택한 항목을 확인합니다.	17
⓲ ↑, ↓, ←, →	항목을 선택하고 조절합니다.	17

계속

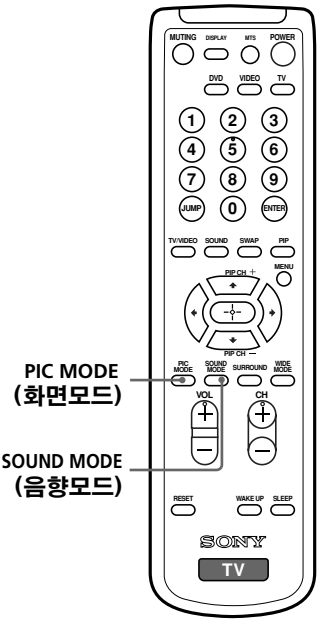
계속



버튼	기능	페이지
PIP 조작 방법 (노란색 라벨)		
㉓ PIP **(동시화면)**	TV에 작동하지 않습니다.	–
㉔ SWAP **(주부전환)**		
㉕ PIP CH +/ (**동시화면채널** +) PIP CH – (**동시화면채널** –)		
㉖ TV/VIDEO **(TV/비디오)**		
㉗ SOUND **(음향)**		
㉘ ⊹		

■ 화면 및 음향 모드 선택하기

"사용자 조정 화면" / "사용자 조정 음향" 옵션 기능을 사용하여 원하는 화면과 음향 모드를 설정할 수 있습니다.



화면 모드 선택하기

원하는 화면 모드가 나타날 때 까지 PIC MODE (**화면모드**) 를 반복적으로 누르십시오.

선택 모드	설명
"생생한 화면"	고대비 화면 시청.
"편안한 화면"	일반화면 시청.
"부드러운 화면"	저대비의 고밀도 화면 시청.
"사용자 조정 화면"	"화면" 메뉴의 "선택조정" 옵션에서 최종으로 설정된 화면 모드를 수신 (19 페이지 참조).

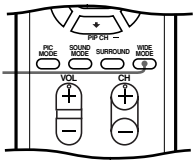
음향 모드 선택하기

원하는 음성 모드가 나타날 때 까지 SOUND MODE (**음향모드**) 를 반복적으로 누르십시오.

선택 모드	설명
"♪생생한 음향"	저음과 고음이 모두 강조된 다이나믹하고 맑은 음향.
"♪드라마"	목소리와 고음이 강조된 음향.
"♪부드러운 음향"	부드러운 음향 청취.
"♪사용자 조정 음향"	"음향" 메뉴의 "선택조정" 옵션에서 최종으로 설정된 음향 모드를 수신 (21 페이지 참조).

■ 와이드 모드로 화면 시청하기

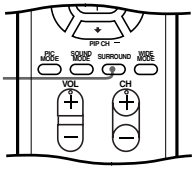
와이드 모드 (16:9) 의 시그널을 수신할 경우, 화면이 “압축” (콤프레스)되어 나타납니다. 최적의 효과로 화면을 시청하려면 WIDE MODE (와이드 모드) 버튼을 사용하십시오.



선택 모드	설명
“켜짐”	화면이 와이드 모드 (16:9) 로 나옵니다.
“꺼짐”	와이드 모드 (16:9) 를 해제합니다.

■ 서라운드 음향 청취하기

서라운드 기능으로 콘서트 홀과 영화관의 입체 음향 효과를 즐기실 수 있습니다.



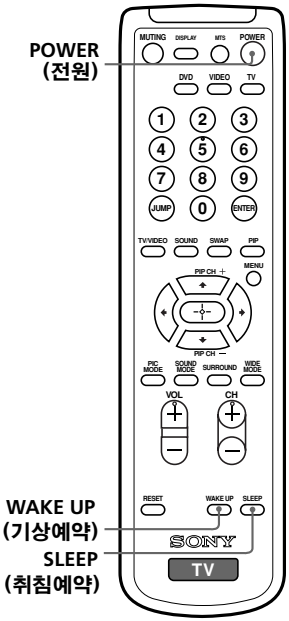
선택 모드	설명
“TruSurround”	전 공간에 울려퍼지는 써라운드 음향 청취
“시뮬레이티드”	스테레오 음향과 유사한 효과의 모노럴 음향.
“꺼짐”	서라운드 음향 해제.

TV 주변의 사운드를 TruSurround 라고 명칭합니다.

TruSurround™ 는 SRS Labs, Inc. 의 상표입니다. SRS 와 SRS 심볼은 미국 및 특정 국가 소재 SRS Labs, Inc. 의 등록 상표입니다. SRS 와 TruSurround 는 SRS Labs, Inc. 의 기술 사용권 취득 하에 사용되었으며, 미국 특허권 No. 4,748,669 와 4,841,572 및 다수의 기취득 또는 취득 중인 기타 국가의 특허권으로 부터 보호받습니다.

■ 타이머 설정하기

WAKE UP (기상예약) 타이머와 SLEEP(취침예약) 타이머를 사용하여 TV가 자동으로 켜지고 꺼지도록 할 수 있습니다.



기상 시간 예약하기

1 **원하는 시간이 나타날 때까지 WAKE UP (기상예약) 버튼을 누릅니다.**

기상예약:**10M**
(10분 후에 기상)

기상예약:꺼짐 ← 기상예약:**12H00M**
(기상시간 예약되지 않았음) **(12시간 후에 기상)**

기상 시간 예약을 설정하면 곧바로 작동이 시작됩니다.

2 **기상후 시청하고 싶은 채널 번호나 비디오를 선택하십시오.**

3 **TV 가 자동으로 꺼지게 하려면 POWER (전원)를 누르거나 취침 타이머를 선택하십시오.**

TV의 WAKE UP 표시기가 오랜지 색으로 점등됩니다.

취침시간 예약하기

원하는 시간이 나타날때 까지 SLEEP (취침예약) 버튼을 누릅니다.

취침예약:**30M** → 취침예약:**60M**
(30분 후에 취침) **(60분 후에 취침)**

취침예약:꺼짐 ← 취침예약:**90M**
(취침예약 되지 않았음) **(90분 후에 취침)**

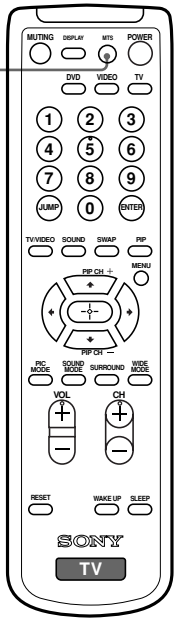
취침시간 예약을 설정하면 곧바로 작동이 시작됩니다.

알아둡시다

- TV 의 ① 버튼을 눌러 TV 를 꺼서 기상예약 타이머와 취침예약 타이머를 해제할 수 있습니다.
- 기상예약 타이머의 작동으로 TV 가 켜진 후 두 시간 이상이 경과하도록 아무런 버튼도 누르지 않을 경우, TV 가 자동으로 스탠바이모드로 들어갑니다.

■ 스테레오 및 음성다중 프로그램 시청하기

스테레오 음향 또는 한국어 스테레오 시스템의 음성다중 프로그램을 즐기실 수 있습니다.



한국어 스테레오 또는 음성다중 프로그램을 시청할 경우

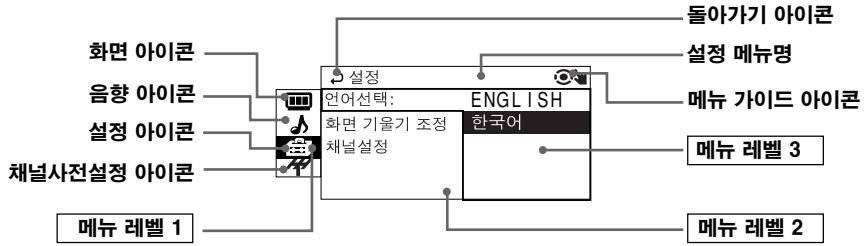
방송	화면 디스플레이 (선택된 음향)
한국어 스테레오	**모노** (정상 음향) → **스테레오** (스테레오 음향)
한국어 음성다중	**한국어** (한국어 음향) → **외국 어** (외국어 음향)

알아둡시다

- 스테레오 프로그램을 수신하는 동안 잡음이 생길때에는, “모노”를 선택하십시오. 음성이 모노럴로 나오지만 잡음은 감소됩니다.
- ╥ (안테나 입력)을 통하여 모노럴 프로그램을 수신하는 중에 음성이 왜곡되어 나올 경우, 화면에 “모노”가 나타날 때 까지 MTS **(음성다중)** 를 반복해서 누르십시오. 모노럴 음성설정을 취소하려면, 화면에 “스테레오”이 나타날 때 까지 MTS **(음성다중)** 를 다시 누르십시오.

■ 메뉴 시스템에 대하여

MENU (기능선택) 버튼을 눌러 메뉴로 들어간 다음 TV 의 설정 내용을 변경할 수 있습니다. 다음은 메뉴 시스템에 대한 설명입니다.



레벨 1	레벨 2	레벨 3 / 기능	페이지
"화면"	"화면모드"	영상모드를 선택합니다: "생생한 화면" → "편안한 화면" → "부드러운 화면" → "사용자 조정 화면" → "선택조정"	18
	"선택조정"	"사용자 조정 화면" 옵션 조절: "화질" → "색상" → "밝기" → "색농도" → "선명도"	
	"와이드 모드"	화면의 크기를 변경합니다: "켜짐" → "꺼짐"	
	"인텔리전트 픽쳐"	화질을 최적화 시킵니다: "켜짐" → "꺼짐"	
"음향"	"음향모드"	음성모드를 선택합니다: "생생한 음향" → "드라마" → "부드러운 음향" → "사용자 조정 음향" → "선택조정".	20
	"선택조정"	"사용자 조정 음향" 옵션 조절: "저음" → "고음" → "음균형" → "BBE"*	
	"써라운드 모드"	"써라운드 모드"를 선택합니다: "TruSurround"→ "시뮬레이티드" → "꺼짐".	
	"인텔리전트 볼륨"	음량을 자동으로 조절합니다: "켜짐" → "꺼짐"	

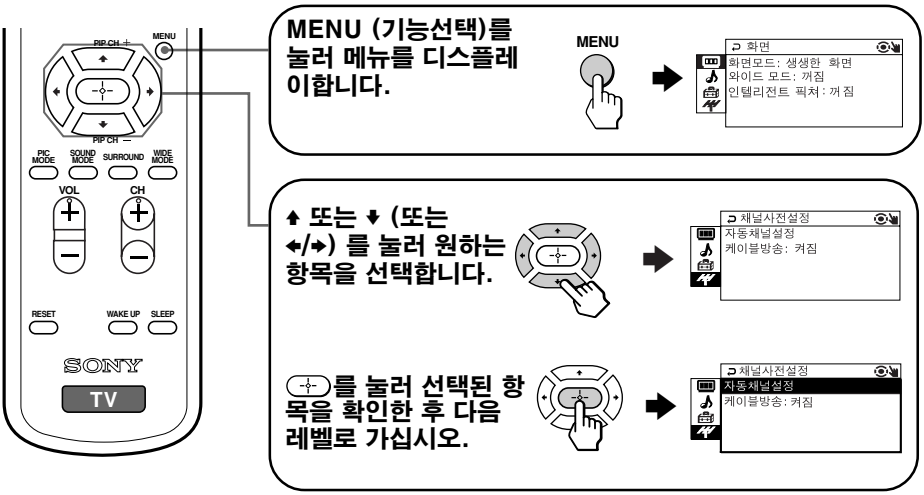
계속

계속

레벨 1	레벨 2	레벨 3 / 기능	페이지
"설정"	"언어선택"	메뉴 언어를 변경합니다: "ENGLISH" (영어) → "한국어"	22
	"화면 기울기 조정"	화면을 회전 이동합니다.	
	"채널설정"	각 프로그램 번호의 설정을 조절합니다.	
"채널사전설정"	"자동채널설정"	채널을 자동으로 사전설정합니다.	24
	"케이블방송"	TV 의 케이블 방송 시청: "켜짐" → "꺼짐"	

* BBE 는 BBE Sound, Inc. 의 자격 허가 아래 Sony Corporation 에 의해 제조되었으며, 미국 특허권 번호 4,638,258 및 4,482,866에 의거합니다. "BBE"와 BBE 심볼은 BBE Sound, Inc.의 등록 상표입니다.

메뉴 사용법



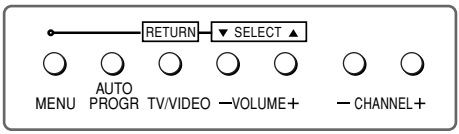
추가 메뉴 조작법

설명	조작 버튼
설정값을 조절하려면	▲, ▼, ◀ 또는 ▶.
이전/다음 메뉴 레벨로 이동하려면	◀ 또는 ▶.
메뉴를 취소하려면	기능선택.

도움말

- 메뉴 레벨 2에서 메뉴 레벨 1로 가려면, 돌아가기 아이콘 (⮌)이 하이라이트될 때 까지 ▲ 또는 ▼ 를 누른 다음, ⊕. 를 누르십시오.
- 메뉴의 항목에 따라 리모콘의 버튼으로도 직접 작동이 가능합니다.
- TV에 있는 MENU, RETURN 및 SELECT ▼/▲ 버튼으로도 위의 조작이 가능합니다.

TV 잔면

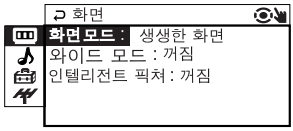


■ "화면" 설정 변경하기

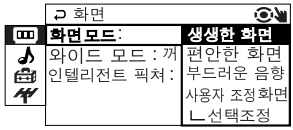
"화면"메뉴를 사용하여 화면의 설정을 조절할 수 있습니다.

1 **MENU (기능선택) 를 누릅니다.**

2 **"화면" 아이콘 (▭)이 선택되었는지 확인 한 후, ⊕ 를 누르십시오.**



3 **▲ 또는 ▼ 를 눌러 원하는 항목 (예: "화면모드") 을 선택한 후, ⊕ 를 누르십시오.**



선택 모드	설명
"화면모드"	"생생한 화면", "편안한 화면", "부드러운 음향", "사용자 조정 화면" *또는 "선택조정"을 선택하십시오 (11 페이지 참조).
"와이드 모드"	"켜짐" 또는 "꺼짐" 을 선택하십시오. (12 페이지 참조).
"인텔리전트 픽쳐"	화질을 최적화 시킵니다. ▲ 또는 ▼ 를 눌러 "켜짐" 을 선택한 후, ⊕ 를 누르십시오. 설정을 취소하려면, "꺼짐" 을 선택한 후, ⊕ 를 누르십시오.

* "사용자 조정 화면" 모드를 선택할 경우에는, "선택조정" 옵션에서 최후로 설정된 화면이 수신됩니다 (19 페이지 참조).

"화면모드"의 "선택조정" 조절하기

1 **▲ 또는 ▼ 를 눌러 원하는 항목 (예: "색상")을 선택한 다음, ⊕ 를 누릅니다.**

색상 ····· 80

2 **아래 표를 참조하여 설정값을 선택한 다음, ⊕ 를 누릅니다.**

설정 항목	조작 버튼 ▼ 또는 ◀ 설명	조작 버튼 ▲ 또는 ▶ 설명
"화질"	화면의 선명도를 감소시킵니다	화면의 선명도를 증가시킵니다
"색상"	색상의 명암도를 감소시킵니다	색상의 명암도를 증가시킵니다
"밝기"	화면을 어둡게 합니다	화면을 밝게합니다
"색농도"	화면의 붉은 톤을 증가시킵니다	화면의 녹색 톤을 증가시킵니다
"선명도"	화면을 부드럽게합니다	화면을 더욱 뚜렷하게합니다

3 **위의 단계를 반복하여 다른 항목들을 조절하십시오.**

조절된 설정은 "사용자 조정 화면" 의 선택시에 수신이 됩니다.

알아둡시다

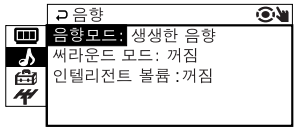
- "선명도" 를 줄이면 화면의 잡음도 감소됩니다.
- "색농도" NTSC 색상 시스템에서만 조절이 가능합니다.

■ "음향" 설정 변경하기

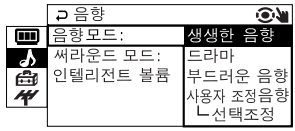
"음향" 메뉴를 사용하여 음향 설정을 조절할 수 있습니다.

1 **MENU (기능선택) 를 누릅니다.**

2 **▲ 또는 ▼ 를 눌러 "음향" 아이콘 (♪)을 선택한 후, ⊕ 를 누르십시오.**



3 **▲ 또는 ▼ 를 눌러 원하는 항목(예: "음성모드")을 선택한 후, ⊕ 를 누르십시오.**



선택 모드	설명
"음향모드"	"생생한 음향", "드라마", "부드러운 음향". "사용자 조정 음향" 또는 "선택조정" 을 선택하십시오. (11 페이지 참조).
"써라운드 모드"	"TruSurround", "시뮬레이티드" 또는 "꺼짐" 을 선택하십시오. (12 페이지 참조).
"인텔리전트 볼륨"	모든 채널과 비디오의 음량을 자동으로 조절합니다. ▲ 또는 ▼ 를 눌러 "켜짐"을 선택한 후, ⊕ 를 누르십시오. 설정을 취소하려면, "꺼짐"을 선택한 후, ⊕ 를 누르십시오.

* "사용자 조정 음향" 모드를 선택할 경우에는, "선택조정" 옵션에서 최후로 설정된 화면이 수신됩니다 (21 페이지 참조).

"음향모드"의 "선택조정" 항목 조절하기

1 **↑ 또는 ↓ 를 눌러 원하는 항목 (예: "음균형") 을 선택한다음, ⊕ 를 누릅니다.**

2 **아래 표를 참조하여 설정값을 선택한 다음, ⊕ 를 누릅니다.**

설정 항목	선택 모드 ↓ 또는 ← 설명	선택 모드 ↑ 또는 → 설명
"저음"	저음을 감소시키고	저음을 증가시킵니다
"고음"	고음을 감소시키고	고음을 증가시킵니다
"음균형"	좌측 스피커의 음량을 증가시키고	우측 스피커의 음량을 증가시킵니다
"BBE"	음색의 맑기를 높이려면 "고설정"을 선택하십시오; 음색의 맑기를 낮추려면 "저설정"을 선택하십시오; BBE 사운드를 끄려면 "꺼짐"을 선택하십시오.	

3 **위의 단계를 반복하여 다른 항목들을 조절하십시오.**

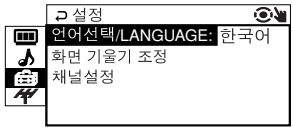
조절된 설정은 "사용자 조정 음향" 의 선택시에 수신이 됩니다.

■ "설정" 내용 변경하기

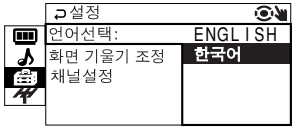
"설정" 메뉴를 사용하여 메뉴의 표시언어를 변경하거나 화면의 포지션을 조절, 그리고 프로그램 번호를 설정하거나 색상시스템을 선택할 수 있습니다.

1 **MENU (기능선택) 를 누릅니다.**

2 **↑ 또는 ↓ 를 눌러 "설정" 아이콘 (🧰) 을 선택한 후, ⊕ 를 누르십시오.**



3 **↑ 또는 ↓ 를 눌러 원하는 항목(예: "언어선택/LANGUAGE")을 선택한 후, ⊕ 를 누르십시오.**

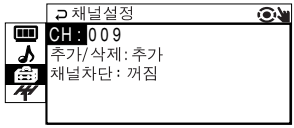


선택 모드	설명
"언어선택"	메뉴 언어 변경하기. ↑ 또는 ↓ 를 눌러 원하는 언어를 선택한 다음 (예:"ENGLISH" (영어) 또는 "한국어"), ⊕ 를 누릅니다. 선택된 메뉴 언어가 나타납니다.
"화면 기울기 조정"	위치가 TV 화면에 맞추어 정렬되도록 조절할 수 있습니다. ↑, ↓, ← 또는 → 를 눌러 화면의 포지션을 조절한 후, ⊕ 를 누르십시오.
"채널설정"	채널 번호 설정을 조절하십시오 (23 페이지의**채널번호 설정 조절하기 ("채널설정")** 참조)

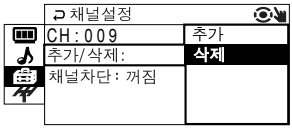
채널번호 설정 조절하기 (채널설정)

1 **"설정" 메뉴에서 "채널설정" 을 선택하십시오.**

2 **"CH" 를 선택한 후 ⊕ 를 누르십시오.**
▲ 또는 ▼ 를 눌러 조절하기를 원하는 채널번호를 선택한 후, ⊕ 를 누르십시오.



3 **▲ 또는 ▼ 를 눌러 원하는 항목(예: "추가/삭제")을 선택한 후, ⊕ 를 누르십시오.**



선택 모드	설명
"CH"	원하는 채널 번호를 선택하십시오.
"추가/삭제"	선택한 채널을 수동으로 사전설정 합니다. ▲ 또는 ▼ 를 눌러 "추가" 를 선택한 후, ⊕ 를 누르십시오. 사용하지 않거나 원하지 않는 채널을 잠그려면, "삭제" 를 선택한 후, ⊕ 를 누르십시오.
"채널차단"	특정의 채널을 어린이가 시청할 수 없도록 합니다. ▲ 또는▼ 를 눌러 "켜짐" 을 선택한 후, ⊕ 를 누르십시오. 잠금 심볼 (🔒) 이 화면에 나타납니다. 채널차단을 해제하려면, "꺼짐"을 선택한 후, ⊕ 를 누르십시오. 차단된 채널을 자동 사전설정 하게되면, 차단된 해당 채널이 해제됩니다.

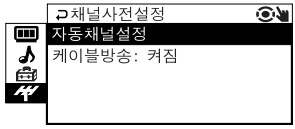
4 **다른 채널 번호를 계속해서 조절하려면,▲ 또는 ▼ 를 눌러 "CH"을 선택한 후, 2 단계와 3 단계를 반복하십시오.**

■ "채널사전설정" 변경하기

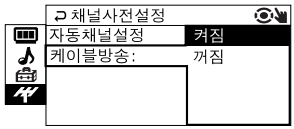
"채널사전설정" 메뉴를 사용하여 TV 가 CABLE TV, VHF 또는 UHF 방송을 수신할 수 있도록 설정할 수 있습니다.

1 **MENU (기능선택) 를 누릅니다.**

2 **▲ 또는 ▼ 눌러 "채널사전설정" 아이콘 (📡) 을 선택한 후, ⊕ 를 누르십시오.**



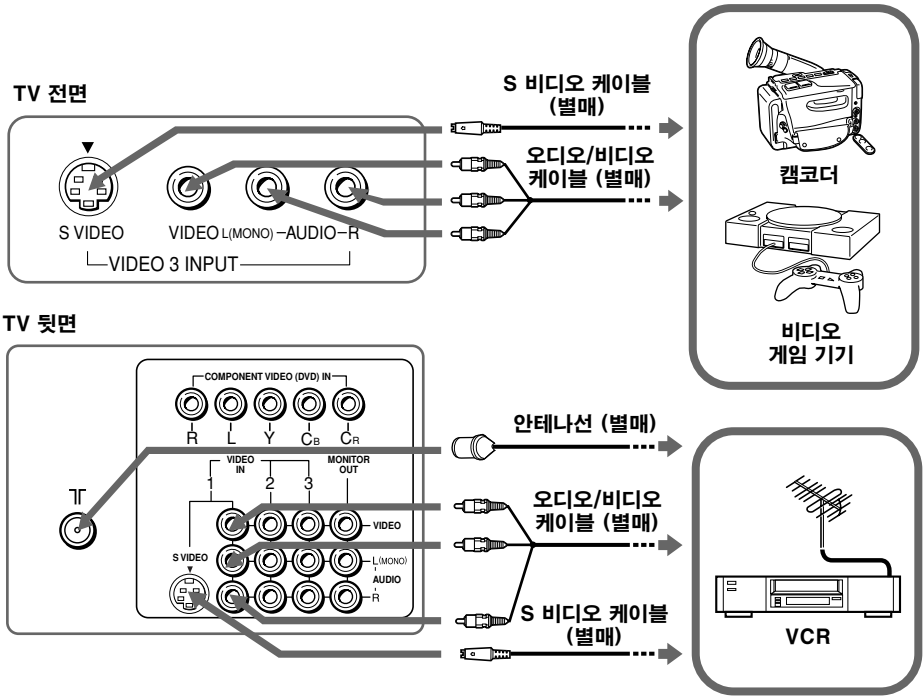
3 **▲ 또는 ▼ 를 눌러 원하는 항목 (예: "케이블 방송") 을 선택한 후, ⊕ 를 누르십시오.**



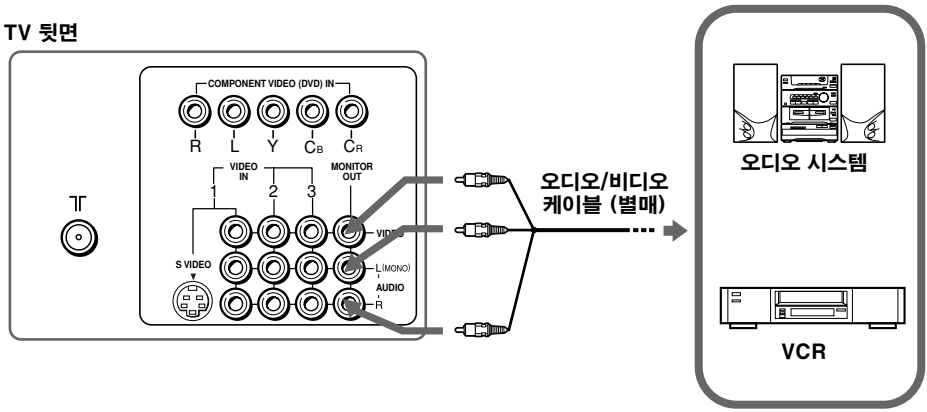
선택 모드	설명
"자동채널설정"	채널을 자동으로 사전설정합니다.
"케이블방송"	케이블 TV 프로그램을 수신합니다. ▲ 또는 ▼ 를 눌러 "켜짐" 을 선택한 후, ⊕ 를 누르십시오. 만약 케이블 방송 프로그램이 없을 경우에는, VHF 나 UHF 채널이 방송됩니다. VHF 및 UHF 방송채널만 수신하려면, "꺼짐" 를 선택한 후 ⊕ 를 누르십시오.

■ 외부기기 연결하기

VIDEO 3 INPUT 및 VIDEO IN 1, 2 또는 3에 연결



MONITOR OUT 단자에 연결



계속

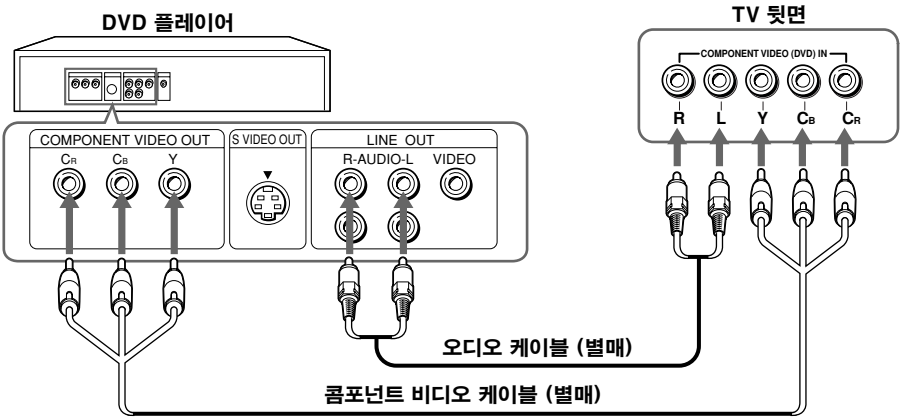
계속

COMPONENT VIDEO (DVD) IN 잭을 사용하여 DVD 플레이어 연결하기

1 오디오 케이블을 사용하여, TV에 있는 COMPONENT VIDEO (DVD) IN 잭의 R과 L을 DVD 플레이어의 LINE OUT, AUDIO R과 L출력 커넥터에 연결하십시오.

2 콤포넌트 비디오 케이블을 사용하여, TV에 있는 COMPONENT VIDEO (DVD) IN 잭의 Y, C_B 및 C_R을 DVD 플레이어의 COMPONENT VIDEO OUT Y, C_B 및 C_R 출력 커넥터에 연결하십시오.

3 COMPONENT VIDEO (DVD) IN의 음원을 시청하려면 리모콘의 DVD를 누르십시오, 화면에 "DVD"가 나타납니다.



알아둡시다

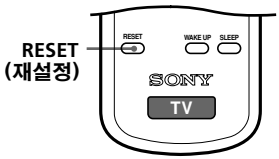
- 사용자의 DVD 플레이어가 인터레이스 및 프로그레시브 모드의 시그널을 출력할 수 있는 경우, TV의 COMPONENT VIDEO (DVD) IN 입력 에 연결시 인터레이스 출력을 선택하십시오. TV 가 수신할 수 있는 인터페이스 시그널은 525i/60Hz 입니다.
- DVD 플레이어에 따라서 터미널의 라벨이 다를 수도 있습니다:

연결할 색상	연결 장소 (DVD 플레이어에서)
Y (녹색)	Y
C_B (청색)	C_B, P_B, C_b 또는 B–Y
C_R (적색)	C_R, P_R, C_r 또는 R–Y

- VIDEO IN 1 또는 VIDEO 3 INPUT에 S VIDEO 와 VIDEO 가 동시에 연결되어 있는 경우에는 S VIDEO 가 자동으로 선택됩니다. VIDEO 를 시청하려면 S 비디오 케이블의 연결을 제거하십시오.
- TV 화면에서 "DVD" 를 선택할 경우, MONITOR OUT 의 시그널이 제대로 출력되지 않게 됩니다. 이것은 오류작동이 아닙니다.

■ 문제 해결

TV 시청중 문제가 발생할 경우, 재설정 기능이나 아래의 문제해결 가이드를 참조하십시오. 그래도 문제가 해결되지 않을 경우, 소니 대리점에 문의하여 주십시오.



재설정 기능

리모콘의 RESET(**재설정**) 버튼을 누르십시오.

TV의 화면이 약 0.5 초 동안 없어졌다가 "재설정" 이 약 10 초 동안 표시된 상태로 화면이 다시 나타납니다.

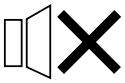
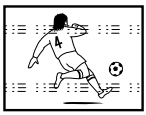
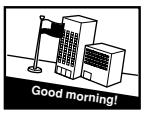
RESET(**재설정**)를 누르면 TV가 공장출하 상태로 돌아가며, 몇가지 문제가 해결될수도 있습니다.

문제해결 가이드

문제	원인	해결 방법	페이지
화면이 하얗게 되고 잡음이 나타난다	• 코드의 연결이 느슨하거나 케이블이 손상되었습니다.	• 안테나 케이블을 확인 하고, TV 와 VCR이 벽의 연결부에 제대로 연결이 되었는지 확인하십시오.	25
	• 안테나의 설정이 올바르지 않습니다.	• 안테나의 설정을 확인하십시오. 소니 대리점에 문의하여 주십시오.	–
소리에 잡음이 생긴다	• 채널 설정이 올바르게 되지 않았거나 설정이 끝나지 않았습니다.	• 채널 설정을 다시 하십시오.	23
	• 시그널의 전송 속도가 느립니다.	• 부스터를 사용해 보십시오.	–
화면이 왜곡되어 나타난다 **소리에 잡음이 생긴다**	• 방송 시그널이 너무 강합니다.	• 부스터를 사용했을 경우, 전원을 끄거나 연결을 제거하십시오.	–
화면이 안나온다 **소리가 안나온다**	• 전원 코드, 안테나 또는 VCR 이 연결되지 않았습니다.	• 전원 코드, 안테나 또는 VCR 의 연결이 제대로 되었는지 확인하십시오.	25
	• TV 가 켜지지 않았습니다.	• POWER **(전원)** 버튼을 누르십시오. • TV 의 ① 버튼을 눌러 TV 를 끈 다음 약 5 초 후에 다시 켜십시오.	9 8

계속

계속

문제	원인	해결 방법	페이지
화면은 제대로 나오지만 **소리가 나오지 않는다** 	• 음향 레벨이 너무 낮습니다.	• VOL + **(음량 +)** 를 눌러 음성이 커지게 하십시오.	9
	• 음향이 소리 줄임 상태에 있습니다.	• MUTING **(조용히)** 을 눌러 소리 줄임을 해제하십시오.	9
점선이나 줄이 생긴다 	• 자동차나 네온사인, 헤어 드라이어, 또는 전력 발전기 등으로 인하여 전파의 수신에 방해가 생겼습니다.	• 헤어 드라이어나 기타 기기를 TV 와 근접한 곳에서 사용하지 마십시오. • 안테나의 설정을 확인하십시오. 소니 대리점에 문의하여 주십시오.	– –
이중 이미지 또는 "그림자" 가 생긴다 	• 방송 시그널이 가까운 곳에 있는 산이나 건물에 반사되고 있습니다.	• 지향성이 강한 안테나를 사용하십시오.	–
	• 안테나의 설정이 올바르지 않습니다.	• 안테나의 설정을 확인하십시오. 소니 대리점에 문의하여 주십시오.	–
	• 부스터를 사용하지 마십시오.	• 부스터를 사용중일 경우 전원을 끄거나 연결을 제거하십시오.	–
흑백으로 나온다 	• 색상 레벨의 설정이 너무 낮습니다.	• "화면" 메뉴를 디스플레이한 후, "화면모드" 에서 "선택조정"을 선택한 다음, "색상" 레벨을 조절하십시오.	19
	• 안테나의 설정이 올바르지 않습니다.	• 안테나의 설정을 확인하십시오. 소니 대리점에 문의하여 주십시오.	–
화면이 경사져서 나타난다 	• 외장 스피커나 기타 기기로 부터 생긴 자기 방해 또는 대지의 자계 방향이 TV 에 영향을 주고 있습니다.	• 외장 스피커나 외부 기기들을 TV 로 부터 멀리 떨어진 곳에 놓으십시오. • "설정" 메뉴를 디스플레이한 후 화면이 최적이되도록 "화면 기울기 조정"을 조절하십시오.	– 22

문제	원인	해결 방법	페이지
색상이 고르지 않고 얼룩이 생긴다 	• 외장 스피커나 기타 기기로 부터 생긴 자기 방해 또는 대지의 자계 방향이 TV 에 영향을 주고 있습니다.	• 외장 스피커나 외부 기기들을 TV 로 부터 멀리 떨어진 곳에 놓으십시오. TV 가 켜진 상태에서는 절대로 TV 를 이동하지 마십시오. TV의 ① 버튼을 눌러 TV 의 전원을 끈 다음 약 15 분 후에 다시 켜십시오.	–
TV가 스테레오 방송 시그널을 수신하지 못한다.	• 스테레오 수신 설정이 올바르지 않습니다.	• "스테레오"가 화면에 나타날 때 까지 MTS (**음성다중**) 를 누르십시오.	14
또는	• 연결이 느슨하거나 케이블이 손상되었습니다.	• 안테나 케이블을 확인 하고, TV 와 VCR이 벽의 연결부에 제대로 연결이 되었는지 확인하십시오.	25
스테레오 방송 사운드가 켜졌다가 다시 꺼지거나 제대로 나오지 않는다.	• 안테나의 설정이 올바르지 않습니다.	• 안테나의 설정을 확인하십시오. 소니 대리점에 문의하여 주십시오.	–
TV STANDBY 표시등이 빨간색으로 약 3 초 간격을 두고 수 차례에 걸쳐 깜박입니다.	• TV 에 고장이 있습니다.	• STANDBY 표시등이 깜박이는 횟 수를 기록하십시오. ① 을 눌러 TV의 전원을 끄십시오. 가까운 소니 서비스 센터에 연락하십시오.	–
TV에서 삐꺽거리는 소리가 난다.	• 실내 온도의 변화에 따라 TV 캐비넷이 팽창하고 수축하며, 이 때 삐꺽거리는 소리가 날 수 있으나, 이 것은 지극히 정상적인 현상입니다.	—	–
TV를 켰을 때 "붕" 하는 소리가 난다.	• TV 의 자기 방지 기능이 작동하면서 나는 소리입니다. 이것은 정상적인 현상입니다.	—	–

■ 제품 사양

	KV-AR29K90		알아둡시다
정격 전원	110–220 V AC, 60 Hz		
전력 소비량 (W)	TV 뒷 면에 표기		
텔레비젼 시스템	M		
칼라 시스템	NTSC3.58		
스테레오/음성다중 시스템	한국어 스테레오		
채널 영역	VHF : 2 부터 13 UHF : 14 부터 69 CATV : 1 부터 125		
╥ (안테나)	75 옴 외부 단자		
오디오 출력 (스피커)	8W + 8W		
입출력 단자 수			
VIDEO (비디오)	입력: 4* 출력: 1	헤드폰 잭: 1 Vp-p, 75 옴	* 세 개의 입력라인을 사용할 수 있습니다
AUDIO (오디오)	입력: 4* 출력: 1	헤드폰 잭: 500 mVrms	* 세 개의 입력라인을 사용할 수 있습니다
S VIDEO (S 비디오)	입력: 2	Y: 1 Vp-p, 75 옴, 불평형, 네가티브 싱크 C: 0.286 Vp-p, 75 옴	
COMPONENT VIDEO (DVD) IN	입력: 1	헤드폰 잭; Y: 1 Vp-p, 75 옴 네가티브 싱크 C_B: 0.7 Vp-p, 75 옴 C_R: 0.7 Vp-p, 75 옴 오디오: 500 mVrms	
∩ (헤드폰 잭)	출력: 1	미니 잭	
화면 크기	29 in.		
브라운관 크기 (cm)	72		대각선 측정치
실제 화면 크기 (cm)	68		대각선 측정치
크기 (너비/높이/길이,mm)	765 × 578 × 502		
중량 (kg)	49		

디자인과 제품의 규격은 예고없이 변경될 수 있습니다.

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